

Presquile National Wildlife Refuge
Narrative Report
Calendar Year 1971

R + E

United States Department of The Interior
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife



PRESQUILE NATIONAL WILDLIFE REFUGE
HOPEWELL, VIRGINIA
NARRATIVE REPORT
CALENDAR YEAR 1971

PERSONNEL

REFUGE MANAGER
MAINTENANCEMAN
CLERK TYPIST
LABORER (INTERMITTENT)

LABORER (INTERMITTENT)

LABORER (INTERMITTENT)

PROJECT TRANSITION (U.S. ARMY - FT. LEE)

PROJECT TRANSITION (U.S. ARMY - FT. LEE)

PROJECT TRANSITION (U.S. ARMY - FT. LEE)

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JAMES N. SMITH
(1/1/71 to 7/21/71)
GARY J. MULLENS
(7/1/71 to 9/10/71)
STEVEN E. FETTERS
(9/14/71 to 12/31/71)
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(4/26/71 to 6/28/71)
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(9/13/71 to 10/22/71)
RUSSELL SCHULTZ
(10/26/71 to 12/2/71)



Refuge Manager - Paul D. Daly



Maintenanceman - Luther B. Vick, Jr.



Clerk-typist - Irene S. Lipchak

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I. GENERAL

Presquile National Wildlife Refuge consists of an island in the James River and the waters surrounding it (2129 acres) approximately 5 miles north of Hopewell, Virginia. The island was bequeathed to the U.S. Fish and Wildlife Service in 1952 by the will of Dr. A. D. Williams of Richmond, who maintained a working dairy farm and country estate here. Although small in size, Presquile maintains wintering flocks of about 10,000 Canada geese and 15,000 ducks annually and provides a valuable link in the chain of Atlantic flyway refuges.

A. Weather Conditions

Records for this station are obtained from data supplied by the Old Dominion Water Corporation which takes readings at the city water plant about three miles downriver from the refuge.

| | <u>Precipitation in inches</u> | | | <u>Temperature</u> | |
|-----------|--------------------------------|---------------|-------------|--------------------|-------------|
| | <u>1971</u> | <u>Normal</u> | <u>Snow</u> | <u>Max.</u> | <u>Min.</u> |
| January | 2.18 | 3.07 | 2.5 | 67 | 13 |
| February | 3.71 | 2.76 | 2.0 | 76 | 7 |
| March | 3.00 | 3.16 | 12.0 | 75 | 25 |
| April | 1.86 | 3.34 | T | 88 | 31 |
| May | 7.01 | 3.97 | | 92 | 37 |
| June | 4.59 | 4.23 | | 96 | 56 |
| July | 3.60 | 5.86 | | 94 | 57 |
| August | 6.02 | 5.10 | | 92 | 57 |
| September | 2.54 | 3.73 | | 91 | 50 |
| October | 8.67 | 2.88 | | 85 | 42 |
| November | 2.80 | 2.80 | | 83 | 22 |
| December | <u>0.97</u> | <u>2.78</u> | | <u>81</u> | <u>21</u> |
| Total | 46.95 | 43.68 | 16.5 | Extremes 96 | 7 |

1971 was characterized by adequate precipitation for area croplands; a cooler than normal summer; and a very warm fall with high temperatures extending through the end of the year.

January began the new year right with 2" of snow on the 1st to go along with your football games and the black-eyed peas. It remained generally cold throughout the month with the coldest period of the winter occurring from January 31 to February 3. The extreme low temperature reading of 7° occurred on February 2. The old river

channel completely froze over during this brief cold snap. The rest of February had about normal precipitation and temperatures with the exception of a warm 76° reading on the 27th. Strong winds on February 22 were accompanied by a tornado watch in this area but no twisters materialized. March lived up to its reputation by producing several days of strong northwest winds, resulting in extremely low river tides. On March 26 the refuge received a 12" snowfall; in this part of Virginia it is a very unusual occurrence to get that much snow in the spring.

An even more unusual event was a trace of snow on April 7; a record for that late date. The rest of April was changeable; with temperatures in the 80's one day, and in the 30's the next. A dry period began the second week in April and lasted through the first week of May. This hurt some area farmers who planted their corn early. The refuge corn is planted late because of late goose use delaying plowing, and our crop fared much better; because late May and June brought an abundance of rain. There was a moderate flood on the James River due to heavy rains on the watershed west of Richmond on June 1 and 2, but the only damage to the refuge was some siltation of our mainland ferry slip which required cleaning with refuge equipment when the waters receded.

July was uneventful weather-wise, except that it was a bit on the cool side for this locale. August remained cool and precipitation was abundant in the form of thunderstorms occurring about one week apart. On August 27 tropical storm "Doria" passed off the Virginia Capes and gave us a byproduct of 2" rain. Rainfall remained about normal in September mainly due to side effects of two more low pressure storms; and softened the ground for fall plowing operations.

October was an exceptionally rainy month. Hurricane "Ginger" stalled off the North Carolina coast between October 1 and 3 and it rained constantly during that period. Then on October 5, a real "gullywasher" rain accompanying an electrical storm caused some soil erosion from our newly planted wheat fields onto the fescue pastures immediately below them. Temperatures were much warmer than usual and this coupled with the wet weather produced an unusually large late mosquito crop. The first killing frost of the fall did not occur until November 5; more than a week after the normal date. The rest of the month saw temperatures return to higher than average readings, however, and rainfall remained abundant. Strong northwest winds were felt at the refuge from November 22 through 25, resulting in low river tides. December continued almost "balmy" with a record 81° reading on the 16th. No snow was noted during the month and overall precipitation was drier than average for the first time in three months. High winds brought in by a cold front on December 18 reached approximately 50 mph for brief periods.

B. Habitat Conditions

1. Water

No water control is exercised at present. All refuge waters are tidal waters of the James River with an average daily amplitude of between three and four feet. Although these are lunar tides, the prevailing wind affects them to about the same degree as on the coast approximately 100 miles to the southeast. Northwest winds bring the lowest river tides and occur most often during the winter; while south and east winds cause highest tides and are noted more during the summer and fall. Abnormally high tide periods flood our entire wooded swamp and marshes (1950 acres) and aid ducks considerably by making tree mast available to them.

Submergent vegetation does not exist in the James River itself due to the polluted, turbid condition of the water. Pollution is both by chemicals from Hopewell industries and by sewerage overflow from the city of Richmond treatment plant. Although there has been a considerable amount of talk in the area about steps being taken to clean up the river, it appears to the naked eye to be as cruddy as it ever was. As yet our emergent marsh vegetation has not been negatively affected. In fact ironically the sewerage seems to have a fertilizing effect on most plants; with their producing seed heads that far surpass what leading texts indicate as the maximum size for the species.

The James is only very slightly brackish at the point where it flows past the island. The Old Dominion Water Corporation in Hopewell monitors the river salinities for the industrial plants; since they cannot use the water if it exceeds 50 parts per million NACL. We have been keeping a record of their readings since 1965; just in case salinities would rise to the point of affecting our marsh vegetation. Probably the only way this would happen would be if the Army Corps of Engineers finally goes ahead with plans to widen the ship channel from Norfolk to Richmond. This project has been discussed for at least ten years and currently there is an additional "study" underway to determine the feasibility of the project. The study itself will probably take three more years to complete. The following is a tabulation of salinity data gathered since 1965. Readings are in highest parts per million NACL for each month:

| <u>Month</u> | <u>1965</u> | <u>1966</u> | <u>1967</u> | <u>1968</u> | <u>1969</u> | <u>1970</u> | <u>1971</u> |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| January | 8 | 36 | 12 | 12 | 12 | 14 | 10 |
| February | 8 | 39 | 10 | 12 | 8 | 14 | 12 |
| March | 10 | 12 | 14 | 12 | 12 | 12 | 10 |
| April | 14 | 13 | 14 | 14 | 14 | 10 | 10 |
| May | 16 | 12 | 16 | 16 | 12 | 12 | 12 |
| June | 20 | 14 | 18 | 18 | 12 | 16 | 14 |
| July | 24 | 26 | 20 | 24 | 18 | 14 | 15 |
| August | 28 | 42 | 24 | 28 | 12 | 20 | 16 |
| September | 32 | 38 | 14 | 46 | 12 | 24 | 13 |
| October | 42 | 12 | 22 | 42 | 10 | 42 | 11 |
| November | 40 | 8 | 20 | 36 | 18 | 24 | 14 |
| December | 42 | 9 | 12 | 14 | 16 | 16 | 9 |

2. Food and Cover

Presquile's swamp and marsh areas are rather consistent producers of high quality waterfowl food. The plants receive ample moisture from the rise and fall of river tides and are not dependent on year to year fluctuations in precipitation.

There are two refuge marsh units comprising 250 acres. They produce generally the same species, but in varying percentages (see section V, part B Vegetative Transects). The east marsh (100 acres) is the lower unit and is entirely flooded on each high tide. Waterfowl generally concentrate in this unit soon after arrival in the fall; and by late winter nothing but mud flats remain. Pintails concentrate in the east marsh; generally it is the only place on the refuge that they are seen. Rice cutgrass (Leersia oryzoides), arrow arum (Peltandra virginica), wandering jew (Aneilema sp.), and beggartick (Bidens sp.) predominate in this area; but sixteen different species occur including such valuable waterfowl foods as dotted smartweed (Polygonum punctatum), wild rice (Zizania Aquatica), softstem bulrush (Scirpus validus), and wild millet (Echinochloa crusgalli).

The north marsh (150 acres) is of generally higher elevation and requires a higher than normal tide to completely cover all areas. It is utilized heavily in late fall and winter; and usually large numbers of black ducks are found here. Canada geese are also fond of resting in the river channel at the edge of this marsh. The most abundant species are smartweeds (P. arifolium and P. sagittatum), arrow arum, wandering jew, beggartick, and pickerelweed (Pontederia cordata). Plants found in lesser percentages include rice cutgrass, spikerushes (Eleocharis sp.), sedge (Carex sp.), wild millet, cattail (Typha sp.), and wild rice. There are some areas on the north marsh where shrub species, mostly red maple and willow, are invading.

Attempts have been made during the past several years to burn the marsh to control this brush but without success (see section IV, part E. planned burning). The north marsh has been designated in our refuge objectives for inclusion as a NWRS "type" sanctuary.

The refuge wooded swamp (800 acres) for the most part contains tree species that produce mast valuable as duck food. Black gum, water tupelo, ash, ironwood and yellow poplar predominate, with oaks on a few higher ridges and cypress along river banks and in openings. Most of the swamp tree canopy is closed over, allowing little sunlight to reach the forest floor. Practically no shrub species that would provide deer forage exist; consequently the large refuge herd subsists almost entirely off the cultivated crops. There are some funds available to do some experimental clearcutting in strips next spring, to see if deer browse can be encouraged. Two main creeks (deep creek and little creek) enter the refuge swamp and are favorite haunts of our ducks; mainly mallards and wood ducks.

Cultivated crops were quite productive this year unlike 1970 when drought and corn blight were widespread. Refuge cropland totals 239 acres and cultivation is entirely by refuge personnel. Due to our limited amount of land suitable for farming we must keep all the hot foods and green browse grown for use of the goose flock. By mid-February this year all corn (65 acres) had been consumed by the wildlife. In a normal year of production it would have lasted through mid-March. Wheat planted in the fall of 1970 was hard hit by drought and several fields were browsed to bare ground by the time the geese departed in April. This fall the wheat and other browse (clover, ryegrass, fescue) was benefitted by abundant rainfall and there still remained 50% of it by years end. An excellent corn crop was only 25% consumed by December 31, 1971.

II. WILDLIFE

A. Migratory Birds

1. Canada Geese

For a small refuge, Presquile boasts a very nice sized goose flock. As 1971 began, we were hosting 9000 birds. This number dropped to 7000 the third week in January (close of hunting season) and fell to 3000 early in February. We held this population through mid-March when more birds departed. By March 27 only 25 geese remained on the refuge. A small flock of 300 Canadas moved through the area in April and remained with us until April 17. A very small remnant flock remains in the area all summer (about 5).

First geese of the fall season were a flock of 10 on September 22. This is six days earlier than the "first seen" dates of the past two years, but is about average. Later that same week 50 were seen and 200 were present at the end of the month. A very slow buildup to 3000 by November 7 was noted. This is typical of this goose flock since they spend a lot of time after their arrival in October at nearby plantations rather than on the refuge. Then when hunting season begins they funnel in here like it was going out of style. By November 15 after goose season opened the population built up to 6500; and it reached 8500 by November 28. A slight decline was noted in December and at year's end we had 7000 geese on the refuge. This number is 1000 under that of the same date in 1970; but it was thought to be due to the exceptionally warm fall holding some birds farther north. See Section VIII, part A for later developments.

2. Blue geese and snow geese

The lesser phase of snow goose is present in small numbers at Presquile. These birds were first noted here in the late 1950's and have built up to the point where we now have about 30 snows and 200 blues each year. They flock together and are always seen feeding right along with the Canadas in the farm fields. "First seen" date for these geese was October 12, about two weeks earlier than normal.

3. Mallard

Presquile's most abundant duck showed a decline this fall from the record high populations of the past two years. Our peak was 7500 during the period December 12 - 31; compared to 9100 last year. Mallards concentrate in our two main swamp creeks in the fall; and they generally are the first species to show a large decrease, or dispersal off the refuge, as soon as the hunting season ends in January. Banding success, which runs heavy to mallards the first week or two after the traps are run; changes to a predominance of black ducks by February.

4. Black Duck

This fall's peak of blacks was 3500 during the period November 14 - 27; down from the peak of 4750 a year ago. Black ducks are spread over the entire refuge; but particularly large concentrations are usually seen in the north marsh. Small numbers of blacks are seen from time to time during the warm weather months, but no broods were seen this year.

5. Pintail

The graceful pintail is generally found in only one

portion of the refuge; the east marsh. Peak number this fall was 1000 during the period December 26 - 31. This compares with 1250 observed in the fall of 1970. Pintails form a very high percentage of the hunter's bag in surrounding areas; in a ratio out of proportion to their abundance on the refuge.

6. Wood Duck

Wood ducks at Presquile are present in about as high a concentration in the fall as you will find anywhere. Peak in 1971 was 2600; down from 3425 last year. This fall's peak was reached during the week of November 7 - 13. The refuge swamp and edges of both marsh units are the woodies favorite haunts.

The wood duck is the only species present in appreciable numbers throughout the summer. Normal breeding population is about 150; and production this year was 60 to flight stage which is down from a year ago. Predation on young woodies in the creeks from turtles is great; however no one in the area indicated a desire to trap turtles this spring. A year ago removal of turtles by trapping accounted for a rise in production to 90. All production is in natural cavities although 65 nest boxes have been available to the birds since 1968. Further experiments on this phenomenon were conducted this year (see section V, part C).

7. Greenwinged Teal

In 1970 fall populations of greenwings increased rather dramatically from token numbers in all previous years (60) to a high of 1200 birds. This increase was reflected in the hunters bag in surrounding blinds. In 1971, however, things returned almost to normal although 200 greenwings were present during the period December 12 - 25. Little creek and the east marsh hold most of these birds when they are present.

8. Other dabblers

Bluewinged teal usually show up in small numbers during the spring and early fall. Highest count this year was 25 during the period October 3 - 9; all bluewings were gone by October 31. Gadwall showed up for the first time in many years with 20 being seen the week of November 21 - 27 in little creek. American widgeon are seen every year in small numbers. During the week of November 28 - December 4 we had 75 in a small marsh unit adjoining deep creek.

9. Diving ducks

A variety of diving ducks are seen each year on the river

channel, but never in great numbers and rarely for long periods. There is simply no submergent vegetation in the river and what feeding they do has to be on fish. Species seen in 1971 included ringneck, lesser scaup, ruddy duck, bufflehead, common merganser, and hooded merganser. Only the common mergansers were present on each count through the winter and early spring.

The largest overall duck population in 1971 came in the first week of the new year (19,600). This was the highest total of ducks ever present at this refuge. Totals for the fall season reached 13,680 during the week of December 26 - 31. While considerably under last winter's count it was still the third highest population at Presquile. From reports at other refuges in the Atlantic flyway ducks in shorter supply this fall seemed to be the rule rather than the exception.

10. Coot

Small numbers of coot use the refuge marsh areas from October through May. The highest count this year was 35 during the week of February 21 - 27.

11. Doves

Highest dove numbers at Presquile generally occur in late winter, summer and early fall and 1971 was no exception. About 200 were present in late January and early February; 200 in early August; and 500 in early October. During times of highest populations attempts were made to band doves, with good success. (see section V, part A, banding).

12. Other Migratory birds

Cattle egrets were present in the spring this year. Our highest number was 7 on May 9 in the farm fields. Florida gallinule, on the refuge bird list as "rare or accidental" were seen late in the year (December) in the north and east marshes. Great black-backed gulls, once rare in this area, have increased in recent years to the point of becoming common in the winter. They are seen in the river channel and in gravel pits located on adjacent properties. Sora rail were abundant in our east marsh in September and October. They are most conspicuous during periods of flood tides and always depart the area with the first frost. The manager tried his first sora hunting this fall and enjoyed it; probably because they are extremely easy to hit. I then switched to doves in October and became suddenly much more humble.

B. Upland Game Birds

1. Bob-white Quail

More quail were present on the limited refuge habitat (300 acres) in 1971 than in many years. They were sufficiently abundant in the summer to be a bit of a nuisance getting caught and recaptured in our dove traps. After the annual production we had 100 birds and this total was only down to 75 at year's end. Usually most of the young birds fly the ship channel to adjacent farms. At least three large coveys were present in December; in the spoils area and around the farm field edges.

2. Turkey

Turkey numbers remained relatively stable all year. In January a very high count of 22 birds together was made in the swamp near deep creek. Production, however, appeared to be nil; at least no young were seen in the fields during the summer. We have a high ratio of gobblers to hens (3:1) and this could be the factor inhibiting production. Our new objectives call for an eventual "trophy type" spring gobbler hunt by permit from an impartial drawing. By taking some gobblers we may bring the sex ratio down to a level where more young will be produced.

3. Pheasant

Pheasant are seen only occasionally; and probably as a result of their flying the west river channel from Curles Neck Farm, where they are raised and released. A single pair was present on the farm as of this writing.

C. Big Game Animals

The white-tailed deer, our only big game animal, has been overly abundant on Presquile since records have first been kept. A bow hunt has been held each fall since 1967, but there has been no change in the overall population on a long-term basis.

In February we made a count of 120 animals in the fields (counts are usually made after dark). An estimated 200 deer were present at that time. Six deer were found dead in late winter and early spring from winter-kill. A fairly high production gave us 50 fawns as an annual increment. Again this year spotted fawns continued to be seen into the month of October. Archers removed 30 deer from mid-October through mid-November; also a great many deer swam from the island to the mainland during this period. The state gun season opened on lands surrounding the refuge on November 15. From that date through the end of the year our counts showed the typical rise result-

ing from deer converging on the island to escape hunting pressure. Counts from September to December had these results:

| | |
|-------------|---------|
| September 7 | 70 deer |
| October 17 | 13 " |
| October 19 | 32 " |
| November 27 | 57 " |
| December 11 | 71 " |

Surprisingly, the deer herd has remained disease free. The island deer, however, average lighter in weight than their mainland counterparts. Stomach samples taken during hunts has revealed that Presquile's deer subsist almost entirely off farm crops. Usually about 25% of the corn crop is consumed by deer; as well as large amounts of buckwheat, fescue, and clover. Experimental clearcutting of small strips in the refuge swamp will be undertaken this spring in order to encourage growth of shrubs, grasses, etc. to try and take some pressure off the crops which are grown mainly to sustain the goose flock.

D. Fur Animals, Predators, Rodents, and Other Mammals

The raccoon population appears to be decreasing after being slightly above average for many years. We estimate there to be 125 now; down from 150 a year ago. Although found throughout the refuge, the 800 acre wooded swamp is their favorite hangout. By elimination of the use of small wire traps for duck banding, we have eliminated predation on trapped ducks by raccoons. It is impossible at Presquile to grow sweet corn in your garden without elaborate fences, hot wires etc. The raccoons will get to it every time just prior to when it should be picked.

Striped skunks have also decreased this year; we have assisted in this process by occasionally shooting them around the quarters, farm buildings etc. About 20 skunks are now present on the area; compared to 30 last year.

Opossum have not changed from the previously estimated total of 15.

Groundhogs remain numerous on the farm and along the river banks. Presquile had a tremendous population prior to a control program in 1964 (gas cartridges). This program knocked them down to their present level; but we still need to shoot some each year to keep them from increasing beyond the estimated 50 we have.

Red Fox are present on the island; we have never seen grays although they are common on the mainland. A litter of pups was again produced in an old den at the north end of field #3 (pasture). As is

the usual case the young left the island by fall; four fox were present at the end of the year. Their barking is generally heard each evening from my quarters.

Cottontail rabbits became very abundant in late spring and early summer; they were literally everywhere in the fields, on the river banks, and in the "spoils" area. Just as we were ready to proclaim an astounding increase in this species (from 25 the previous year); the foxes started feeding their pups. Rabbits declined throughout the summer and early fall; but remained in higher numbers at the end of 1971 than last year. About 35 rabbits are now present.

Gray squirrels continued to be abundant. They find the living easiest on the river bank edges in close proximity to the corn fields and the pecan trees in the headquarters area. A large number are also present throughout the hardwood swamp. Their numbers remained stable at 200.

Muskrats seem to be making a slow increase on our two marsh units and in the swamp creek banks. The estimated population is up to 300 from 250 a year ago. We have noticed occasional cave-ins on an old dike near the east marsh which is serving as part of our new wildlife trail.

A family of beaver continued to maintain a lodge in a pond on Doggham Farm across the east river channel from the island. They swim to and from the refuge as is evidenced by cuttings in the eastern portion of the hardwood swamp.

Otter, mink, and weasel have also been seen at times on Presquile; but no observations were made in 1971.

E. Hawks, Eagles, Owls, Crows etc. The most exciting addition to the refuge bird list this year was a golden eagle sighted by the manager on November 18 and during the ensuing week on the edge of the east marsh. The bird was a magnificent adult and at first sighting the sun shone directly on him to afford an exceptionally good view. News releases were prepared for five area papers and resulted in five articles including one editorial. It was a first for the Richmond area and created quite a stir from local birders and the general public as well.

Bald eagles were seen with more regularity this year. The reason is not definitely known; however there was a large fish kill in the James last spring which roughly coincided with the appearance of the eagles. At years end there was one adult and one immature eagle using the refuge. No nests are present nor have there ever been any, as far back as our records go.

The red-tailed hawk and red-shouldered hawk are permanent residents and the refuge's most abundant raptores. Both species range over all refuge habitat and they are usually present in about equal numbers. No change in relative abundance of these hawks was noted this year.

Marsh hawks are winter residents and are fairly common from about October through March. Other hawks seen in small numbers during 1971 were the sparrow hawk, Cooper's hawk, and sharp-shinned hawk. Osprey were seen in spring and fall, but no nests were sighted in the immediate refuge vicinity.

Our most common owl is the barred owl; which is a permanent resident of the hardwood swamp. On cloudy or foggy days they are seen on boat trips up the main creeks; while their calls are heard every night from headquarters. A pair of barn owls has taken up residence in the silo near the dairy barn; and our hopes are for owlets this coming spring. Most visitors to the refuge peer into the silo to get a good look at the pair but it does not seem to bother them; visitations being as infrequent as they are at Presquile.

Both the common crow and the fish crow are found in this area; the common being a permanent resident and the fish crow being present in all seasons except winter. Numbers of crows did not vary noticeably from previous years. They cause some trouble in the spring by pulling up the newly sprouted corn; but fortunately their numbers are not great enough to constitute a major depredation hazard.

F. Other Birds

Bank swallows have a colony in the steep banks of the navigational canal south of the island. According to local "birders" this is the only such colony within a 100 mile radius. The colony was exceptionally large this year; and a picture of it is included in the photo section.

Evening Grosbeaks, which did not show up at the refuge last winter; arrived this year in late December. They are seen mainly in the shrubs and trees bordering the west channel bank; and depart from the area with the last severe winter weather.

G. Fish

A fair amount of fishing, both commercial and for recreation, is done in the proclamation waters of the James River surrounding the island. Catfish are abundant, while at times good catches of white and yellow perch, carp, and striped bass are made. Most local people will not eat the fish from the river; commercial catches are shipped to other markets. The high degree of river pollution does of course

affect the flavor of the fish; but at certain times they taste all right, possibly because rains temporarily freshen the river or because waste disposal from the factories are at a lower level than average.

H. Reptiles

An effort was made this year to begin compiling data for a refuge reptile and amphibian list. The results are listed in the following table and represent only those species observed and positively identified during the past year. It is obvious that this is only a beginning and that the list is far from complete. Relative abundance is not specified in the table.

Reptiles

| | |
|--------------------------|---|
| Common water snake | <u>Natrix sipedon</u> |
| Cottonmouth moccasin | <u>Agkistrodon piscivorus</u> |
| Garter snake | <u>Thamnophis sirtalis</u> |
| Rough green snake | <u>Opheodrys aestivus</u> |
| Smooth black snake | <u>Coluber constrictor</u> |
| Coastal plain milk snake | <u>Lampropeltis triangulum</u> <u>temporalis</u> |
| Common hog-nosed snake | <u>Heterodon contortrix</u> |
| Red-bellied snake | <u>Storeria occipitomaculata</u> |
| Snapping Turtle | <u>Chelydra serpentina</u> |
| Eastern box turtle | <u>Terrapene carolina</u> |
| Red-bellied turtle | <u>Pseudemys rubriventris</u> |

Amphibians

| | |
|-----------------------|--------------------------|
| Bull frog | <u>Rana catesbiana</u> |
| Southern leopard frog | <u>Rana pipiens</u> |
| American toad | <u>Bufo americanus</u> |
| Five-lined skink | <u>Eumeces fasciatus</u> |

The two most abundant reptiles are the common water snake and the snapping turtle. The turtles are thought to be limiting factors in the survival of young wood ducks; our duck production seems to fluctuate upward during years when trappers take turtles from our swamp creeks, and downward during years when they don't. Our refuge objectives call for turtle trapping in the spring to enhance duck production; but it is becoming difficult to find trappers in this area who are willing to put in a lot of effort for a relatively meager return.

I. Disease

We had an outbreak of botulism in some penned wood ducks during

September. Higher than normal temperatures and declining water levels in the pen exposed mud flats which evidently harbored the organisms. In all eight ducks succumbed to the toxin. The remaining birds were removed to a pen at headquarters where they were kept for four weeks. They were returned to the original pen after heavy rains had flushed the site and cool weather had arrived. No more losses occurred after the original outbreak.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Budget constraints prevented any true "development" work during 1971. Major maintenance projects, rehabilitation work, and minor development activity was conducted to the following extent:

1. Ferry system A cable-operated ferry run by refuge personnel is the normal means of moving to and from the island. A substantial chunk of our maintenance funds go toward keeping the ferry in good operating condition. The 3/4" cable that guides the ferry is 700 feet long and requires replacement about every 6 months. As soon as the cable begins to shed small slivers of wire or looks "ragged" we replace it. The engine that powers the craft is an old (late 1950's) model Chevrolet pickup engine that has been a very reliable one for us and that requires only routine maintenance. The rollers that guide the cable through each end of the ferry were replaced twice as they wore out.

Occasionally the ferry slips require a scraping to remove silt deposited by the river waters. This is done on an average of twice per year with refuge equipment (fork lift and homemade blade attachment). The ramps on either side of the channel required some new cross stringers, and one of the electric hoists that raise and lower the ramps required repair work.

2. Roads and Trails Normal road maintenance is by refuge tractor and scraper blade attachment. We have two segments of road; each about $\frac{1}{2}$ mile in length. The island road from the ferry to headquarters is in good shape; but the next maintenance to the mainland access road will have to be by contract; since the heavier public use of the last few years has resulted in many small chuck holes that cannot be adequately smoothed with our own equipment. At the same time this road is graded, we will have some gravel spread on the worst spots.

3. Buildings and Facilities The oil house, garage, and parts of the dairy barn were painted.

The boathouse was hauled from the river and completely rebuilt; with new barrels, doors, rewelded rails, and repainted wood and metal surfaces.

The interior of the maintenance shop and shop rest room were painted.

In Quarters #44 the furnace was cleaned and checked; the kitchen range was repaired; and a new circuit breaker was installed to handle the electric water heater.

Negotiations were begun with the Virginia Electric and Power Company to see if they would take over ownership and maintenance of the island electric facilities. Repair work on weekends and at night is a major problem at present, since the private electric companies do not work these odd hours. Also our facilities are deteriorating faster than we can maintain them under our limited budget. The submarine power cable running under the east river channel to the island would alone cost in the neighborhood to \$5000 to purchase a replacement. We are hopeful that the present island electric bills (government and quarters) are large enough to let VEPCO figure that they can make a profit by taking over the system.

4. Banding Facilities Most ducks banded at this station are taken in large wire funnel traps located at concentration points in our swamp creeks. This year our best catching trap in deep creek was rebuilt and a new trap almost equal in size was constructed in little creek at a location that had never been tried previously. Materials used were locust posts, 1" mesh poultry wire for the sides and 2" mesh poultry wire for the tops. Funnels were of 1" x 2" weldwire braced with reinforcement rods. Our funnels need to be quite a bit higher than at many stations, so that ducks can enter the traps during all tide levels.

Cannon net sites (2) were spread with small size gravel prior to the trapping season. Our largest site is in the farm fields east of our picnic area. At this location we have two 30' x 60' nets sewed together and utilize the old dill-type cannons. A second site is located on the east river channel bank in the spoils area; the new "jet set" cannons are used there.

5. Wildlife Trails Of two trails planned for this refuge; one was completed in 1971 with the exception of an entrance sign and receipt of a trail leaflet. This trail, named "Presquile in Miniature" winds through a variety of habitat on the southeast corner of the island. Numbered posts correspond to a narration of wildlife and management practices in the leaflet. The second trail, extending

into the refuge swamp north of the cropland area, will hopefully be completed during 1972.

6. Duck Pen A predator-proof duck pen was constructed during the summer in a low portion of the spoils area adjacent to the east marsh. Although the pen can be used in many ways (displays of various species for visitors, crippled birds etc.), its immediate use was as a home for young box-imprinted wood ducks donated to the refuge by the Curles Neck wildlife area nearby. For more information on this experiment see Section V., part C on wood duck nest boxes. The pen was constructed of 4 x 4 salt-treated posts, 1" x 2" weldwire for sides, and 1" poultry wire for the top. Salt treated 2" x 10" boards were buried at the bottom edge of the pen for predator proofing. Although we have no control at present over the water levels in this area; rainfall keeps it adequately supplied during all but summer drought periods. If water is needed during these times we can pump it the short distance from the east marsh to the pen.

7. Miscellaneous The John Bean pump, which is mounted on our tank trailer for fighting fires, spraying etc. was overhauled.

Trees around farm field edges, in the orchard at headquarters, and privet bushes near the residence were pruned.

The annual task of clearing the swamp creeks of trees that topple into them during storm periods was accomplished prior to the hunting and banding season when we must travel the creeks almost every day.

Refuge personnel assisted the Chesapeake and Potomac Telephone Company workers on three different occasions when new phone lines had to be strung under the ship channel from the mainland to the island.

Picnic tables were cleaned, sanded, and given a fresh coat of shellac prior to the heaviest use of the picnic area in early fall.

Routine maintenance work was performed on all vehicles, farm equipment, and heavy equipment.

8. Equipment Purchases

The following equipment was purchased during the year:

- (a) 1971 Dodge pickup truck
- (b) Two desks for the new office
- (c) A John Deere 16 x 7 model B grain drill
- (d) A John Deere subsoiler tractor attachment
- (e) New rear tire for the Case 400 tractor

- (f) Trash barrels (2) for the picnic area
- (g) Two new tires for the 1966 Plymouth station wagon.

We also acquired twenty five 55 gallon drums from Richmond Defense General Supply Center surplus property to use in rebuilding the boathouse.

B. Plantings

1. Aquatic and Marsh Plants

None.

2. Trees and Shrubs

Three peach trees were purchased from a local nursery and planted in the refuge orchard for beautification of the headquarters area.

3. Upland Herbaceous Plants

The Chester office of the USDA Soil Conservation Service donated 5000 american beachgrass plants to us and we planted them on a badly eroded river bank bordering the ship channel on the southwest corner of the island. They were to supplement the 10,000 beachgrass plants which were put on the same area last year. Everything looked beautiful, with about 55% survival of both plantings until June, when a minor flood on the James River undercut the bank just enough for two years worth of work to slide into the river. Discussions with SCS personnel, including plant scientists and engineers were frequent regarding this trouble spot and we have concluded that trying to control this erosion by vegetative means alone is fruitless. Currently their engineer who is supposed to be an expert in river bank erosion is formulating a recommendation for us as to a structure that will help stabilize the bank. Cooperation from SCS personnel has been outstanding in this matter.

Other upland plantings were Korean lespedeza planted on our river cannon net area as summer cover; and sericea lespedeza sowed on the above mentioned bank erosion area in an attempt to establish some sort of vegetation on the site.

4. Cultivated Crops

Corn - 70 acres
Wheat - 60 acres
Buckwheat overseeded with ryegrass - 14 acres

All farming at Presquile is by refuge personnel, due to the

necessity of retaining all crops produced as food for the goose flock. Farming is in conformance to an approved SCS soil management plan and is done on the contour. Strip cropping and crop rotation techniques are also practiced.

All land in cultivation was plowed this year. Fields #2b, #2d, #5z, and #8a were planted to soybeans in early June and plowed under in August as a green manure. Besides adding organic matter to the soil, the soybeans act as a buffer against damage to the corn crop by deer. While we have the beans, the deer seem to prefer eating them to the corn. After the beans were plowed under, winter wheat was planted in September in the above fields.

No lime was applied to our fields in 1971. Soil tests show a need for lime in fields #2b and #2d and this will be applied this coming spring if funds are available.

Fertilizer and chemical treatments of croplands were as follows:

Corn land - 600 lbs/acre of 2-6-12 prior to plowing and disking. After germination we applied 120 lbs/acre Nitrogen along with 2 lbs./acre Atrazine for weed control.

Soybeans (green manure) - 50 lbs/acre Nitrogen at time of planting.

Wheat - 500 lbs/acre 10-5-8 after soybeans were plowed under and land disced.

Buckwheat and ryegrass - same fertilizer as wheat.

Production of all crops was generally very good and a distinct improvement over 1970 when the corn was hit by blight and all crops suffered from drought. We were fortunate in being able to purchase blight resistant (N cytoplasm) corn seed which was in pretty short supply in this area. Most farmers had to settle for a blend of resistant and non-resistant cytoplasm seed; and they did get hit by blight, although it was nowhere near as severe as in 1970.

Corn production averaged about 80 bushels per acre; although we had one field (5) that produced over 100 bushels and another field (2c) that produced only 50 bushels due to heavy deer damage. The only variety planted this year was Pioneer 309A, since it was the only one we could get in blight resistant seed. The only drawback to this variety was that it produced an ear rather high on the stalk; and may cause difficulty for the geese in getting all of it if we don't mow it down. We will not know this, however, until late winter.

Wheat browse was excellent this fall in every field. Blue-boy was the variety planted.

Japanese buckwheat produced a fine crop which the geese dined on first since it was in the proper flowering stage when they arrived. We usually plant around September 1 to time this crop to the flock's appearance. Ryegrass overseeded with the buckwheat created an excellent browse which will last the geese through the winter after the buckwheat is consumed.

In addition to annually cultivated crops there are 89 acres of permanent pasture (mostly fescue) and 6 acres of pure ladino clover. The fescue pasture is retained in fields that are most subject to erosion. Although the geese prefer wheat and ryegrass; they will dine on the fescue after the other browse has been consumed. No fertilizer was put on the pasture this year; however growth was robust and required mowing at an average of every three weeks from April through October. All ladino clover was excellent this year except field #4 which has only a fair stand. Since this field has been in clover for about five years; we will put it into grass this spring and retain it in this manner until we can revert to clover again. The shape of this field makes it too difficult to keep in our regular rotation. The clover is a high preference food for geese; and the deer also feed avidly upon it, particularly during late spring and early summer.

C. Collections and Receipts

Corn, wheat, buckwheat, ryegrass, ladino clover, and soybean seed was purchased this year for planting in refuge fields.

About 480 bushels of corn were picked for use in banding operations. Until 1970 we had our corn picked by the farmer on Presque Isle Farm located across the ship channel from the refuge. That farm went out of operation, however, in late 1969; and the current lessee has a combine that is too large for us to get it on the ferry. This year therefore we made other arrangements that necessitated more work on our part; but still got us the corn we needed at less cost than if we simply purchased it. We rented a one-row pull-type corn picker and used our tractor for the picking operation. Maintenance man Vick owned a sheller and he brought it to the island and we shelled the cob corn and augured it into the barn grainbin. The entire job took about three days for the maintenance man and one laborer; most of this time was in the shelling operation.

D. Control of Vegetation

Jimson weed has always been our number one pest plant in the

fields. We control it by the application of 2 lbs. atrazine per acre in the corn fields at time of germination, mixed with Nitrogen as the carrier. Excellent control of jimson weed and other weeds resulted. In the soybean and wheat fields control was by plowing and disking prior to the wheat planting; results were also excellent.

Johnsongrass is limited to spot infestations in some fields and also along the deer fence. Treatment was by spraying dalapon (5 lbs. a.e./acre) in June and disking at other times throughout the growing season. Johnsongrass growth was more robust this year due to abundant rain; but satisfactory control resulted from the above methods.

E. Planned Burning

Our marsh burning plan calls for burning alternate units each year to retard the spread of invading shrub species (maple, willow). This type of marsh, however, is difficult to burn; and despite several attempts we could not get a fire to carry across it. The vegetation remains green quite late in the year. By the time it is dry enough to burn, the waterfowl have eaten it so much that it is in "clumps" and there is not enough fuel to keep the fire spreading. A long dry spell in the fall followed by an early freeze will probably be required if we are ever to be successful with marsh burning at this refuge.

F. Fires

None.

IV. RESOURCE MANAGEMENT

A. Grazing

None.

B. Haying

None.

C. Fur Harvest

None.

D. Timber Harvest

None. In cooperation with the area forester we have developed a plan to experimentally clear cut several strips in the swamp. These would be small units, about two acres in size; and

would be for the purpose of opening the dense tree canopy that now prevents sunlight from reaching the forest floor. Hopefully good deer browse would result as well as heavier production of mast on the "edge" trees of the strip. Some of this work will be done in the spring of 1972.

E. Commercial Fishing

Some commercial fishing is done in the proclamation waters surrounding the island. Catfish and perch make up the bulk of the catch; although occasionally striped bass and herring are taken. The fish are shipped to New York and Chicago markets; local people will have nothing to do with them because of the river pollution.

F. Other Uses

None.

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Banding

The following table shows results of our banding program in 1971.

| <u>Species</u> | <u>Quota</u> | <u>Banded 1971</u> |
|------------------------|--------------------------|--------------------|
| Canada Goose | 300 | 148 |
| Mallard | as can | 191 |
| Black Duck | 500 | 207 |
| Wood Duck | as can | 36 |
| Ringneck | - | 2 |
| Black x Mallard Hybrid | - | 3 |
| Coot | - | 3 |
| | Total waterfowl banded | 590 |
| Doves | 200 | 278 |
| | Total all species banded | 868 |

All waterfowl were banded during the post season period. Of the doves 59 were banded post season and the remainder from June to September.

All Canada geese were banded with one shot of the cannon net on February 2. In addition to those banded we caught 10 re-traps including a female that had been banded at Presquile back in December, 1963 as an adult.

Most of our ducks are caught in wire swim-in traps located in our swamp creeks; but some are also cannon netted at a site on the east channel river bank. The large trap at the head of deep creek again was the best producer for us. We tried something new this year in the manner of checking our traps in an effort to reduce costs and keep more ducks on the area during the banding period. An ATV "amphicat" was borrowed from Mackay Island NWR and our plan was to go through the swamp to the traps; thus cutting travel time by about one hour and also not scaring the ducks out of the length of the creeks as we did on every trip by boat. The theory was good, but it did not work out in practice because our terrain was too much for the particular "all terrain" vehicle. We continually were breaking axles in until we finally gave up and returned the beast to Mackay Island. A tracked vehicle would probably be better suited to our area.

Dove trapping was conducted using 20 small wire traps and hen scratch for bait. Our best results came in the spoils area during the post season period and in the "wild pasture" field (#8c) near our power line in the summertime. We had to "scratch out" enough doves to reach our quota this year and if it wasn't for doing most banding during evenings and on weekends the project would have been too costly per bird banded.

B. Vegetative Transects

One transect line in each of our marsh units is established. The north marsh line was run this year on October 5. Fifty stops were made at 10 pace intervals and a 5 point sampling technique was used. The following table shows the results of this years sample compared with that on the same unit in 1969.

| <u>Species or Group</u> | <u>1971</u> | | <u>1969</u> |
|---|---------------|-----------------|-----------------|
| | <u>Number</u> | <u>Per Cent</u> | <u>Per Cent</u> |
| Smartweeds (<u>Polygonum arifolium & P. sagittatum</u>) | 59 | 18.6 | 17.6 |
| Arrow-arum (<u>Peltandra virginica</u>) | 50 | 15.7 | 0.5 |
| Wandering Jew (<u>Aneilema sp.</u>) | 39 | 12.3 | 16.0 |
| Beggartick (<u>Bidens sp.</u>) | 37 | 11.6 | 2.1 |
| Pickrelweed (<u>Pontederia Cordata</u>) | 26 | 8.2 | 21.6 |
| Rice Cutgrass (<u>Leersia oryzoides</u>) | 24 | 7.6 | 8.5 |
| Dotted Smartweed (<u>Polygonum punctatum</u>) | 15 | 4.7 | 5.3 |
| Spikerushes (<u>Eleocharis spp.</u>) | 9 | 2.8 | 9.3 |
| Sedge (<u>Carex sp.</u>) | 8 | 2.5 | 8.0 |
| False Loosestrife (<u>Ludwigia spp.</u>) | 3 | 1.0 | 0.3 |
| Wild Millet (<u>Echinochloa crusgalli</u>) | 3 | 1.0 | 0.3 |
| Round Rushes (<u>Juncus spp.</u>) | 2 | 0.6 | 0.3 |
| Cattail (<u>Typha sp.</u>) | 1 | 0.3 | 0.3 |

| <u>Species or Group</u> | <u>1971</u> | | <u>1969</u> |
|---|---------------|-----------------|-----------------|
| | <u>Number</u> | <u>Per Cent</u> | <u>Per Cent</u> |
| Marsh Mallow (<u>Hibiscus palustris</u>) | 1 | 0.3 | 1.1 |
| Softstem Bulrush (<u>Scirpus validus</u>) | 1 | 0.3 | 1.6 |
| Water Willow (<u>Decodon verticillatus</u>) | 1 | 0.3 | 0.3 |
| Wild Rice (<u>Zizania aquatica</u>) | 1 | 0.3 | 0.3 |
| Bare Ground | <u>38</u> | <u>11.9</u> | <u>4.5</u> |
| Totals | 318 | 100.0 | 100.0 |

Although no management of water levels is done in the marsh, it is evident that vegetative changes are occurring annually. Various natural factors such as tides, rainfall, slight salinity variances, and complete removal of flora by waterfowl are probably causing these changes. We originally planned to monitor our marsh vegetation every other year; but because of the above variations we now plan to run both the east and north marsh transects every year.

Even though significant differences in plant species composition occurred on the north marsh unit, the overall quality of the plants as waterfowl food remained more constant. Of all plants recorded, 97.1% were considered to be good or fair waterfowl foods; while only 2.9% were non-foods. The same data for 1969 showed 94.7% as good or fair foods and 5.3% as non-foods.

C. Wood Duck Nest Boxes

Presquile has had 65 wood duck nest boxes erected since 1968; and, although the boxes are checked and renovated each year, there has never been any use of the boxes by woodies. The boxes are wood (25) and aluminum (40) and conform to FWS specifications. A summer population of about 150 wood ducks is present and an estimated 60 young were produced to flight stage in 1971; all in natural cavities.

Curles Neck Farm, just west of the refuge, also has a nest box program and has had good success with a high percentage of their boxes being used. The refuge received a donation of 22 woodies from Curles in July and August that had been incubated and imprinted to wood duck boxes. We built a predator proof pen in an area near our east marsh and kept the birds there through the end of the 1971/72 hunting season. At that time they were banded and released. Fourteen additional wood nest boxes were erected and placed within a two hundred yard radius of the pen prior to the release of the ducks. They have been staying within the general area of the pen since their release; but it remains to be seen whether or not they will use our boxes. The area where the pen and new boxes are located is adjacent to our wildlife trail; and could serve as a practical wildlife demonstration for visitors.

VI. PUBLIC RELATIONS

A. Recreational Use

Although visitations to Presquile are dwarfed in total numbers by most other stations; they have increased three fold in the last three years. Each group of visitors gets a better than average experience because they are taken to the refuge on the ferry; are given an introduction to the area; and are generally the only group on the island that particular day. Our use is very heavily wildlife oriented - 85% in 1971. We have the best data on public use possible since each visitor is counted as he is brought to the island.

Our current recreational facilities include a new wildlife trail "Presquile in Miniature", and a picnic area near headquarters in a large grove of trees where a Civil War era house used to stand.

The trail consists of nine numbered stations and a narrative leaflet which is handed to each person that indicates a desire to walk the trail. It begins at the south gate in the deer fence and winds through the "spoils" area; east river bank edge; past the east marsh and southern edge of the wooded swamp; and back to the fields. Rather than have a "one theme" trail we designed it to try to portray a variety of our management practices and put the hiker in spots where he would have the opportunity to see a variety of wildlife. The trail is about 3/4 mile in length.

The picnic area contains four large tables; three charcoal grills, waste receptacles, and running water. Rest room facilities are located in the maintenance shop approximately 200 yards north of the picnic site. The wildlife trail was planned to end at the picnic grove so that this facility could be used at the end of a good walk.

An important recreational use besides wildlife observation, trails, picnicking etc. is our annual bow hunt for deer; which is covered in detail in a later section. This year the hunt resulted in 628 hunter-days and an estimated total of 30 deer killed. The deer hunt is still probably the recreational use which results in our greatest amount of publicity and it has so far been all favorable.

The big task this year of formulating refuge objectives resulted in our planning for several uses which up to now had not been considered. Among these are "trophy" type turkey gobbler hunting, primitive camping for youth groups while actively engaged in wildlife conservation projects, and canoeing in our swamp creeks.

B. Refuge Visitors

Total visitor use increased this year from 2378 in 1970 to 2414. Organized groups and official visitors are as follows:

| <u>Date</u> | <u>Name</u> | <u>Where From</u> | <u>Purpose</u> |
|-------------|--|------------------------------|------------------------|
| 01-23-71 | 12 members of the Cape Henry Bird Club | Norfolk area | Bird Watching |
| 02-18-71 | Otto Florschutz Area Biologist | Washington, N.C. | Deer Stomach Samples |
| 02-20-71 | 19 members of the Richmond Natural History Society | Richmond, Va. | Bird Watching |
| 02-27-71 | Northern Virginia Chapter Virginia Society of Ornithology | Washington, D.C. area | Bird Watching |
| 03-18-71 | Vertebrate Zoology Class University of Richmond | Richmond, Va. | Field Trip |
| 03-22-71 | Math and Science Center Ornithology Class | Richmond, Va. | Equisetum Growth Study |
| 04-04-71 | Richard Bland College Ornithology Class | Petersburg, Va. | Field Trip |
| 04-17-71 | 7 members of the Cape Henry Bird Club | Norfolk area | Bird Watching |
| 04-28-71 | 29 sixth graders Bon Air Elementary School | Bon Air, Va. | Tour |
| 05-01-71 | 231 Girl Scouts of the Hopewell, Va. District | Hopewell area | Annual Field Day |
| 05-09-71 | Earl Cunningham | U.S.F.W.S. Central Office | Tour |
| 05-15-71 | 19 Brownies & Leaders Troop #199 | Chester, Va. | Wildlife Observation |
| 05-20-71 | 17 members of the Hopewell Newcomers Club | Hopewell, Va. | Picnic |
| 06-29-71 | Math & Science Center Living World Classes | Richmond, Va. | Wildlife Observation |

| <u>Date</u> | <u>Name</u> | <u>Where From</u> | <u>Purpose</u> |
|-------------|--|-------------------------|---|
| 07-07-71 | Camp Happy Acres | Prince George, Va. | Wildlife Observation |
| 07-07-71 | Otto Florschutz, Gene Czuhai Area Biologist and Area Forester | Washington, N.C. | Timber Management |
| 07-08-71 | Jim Chudoba, Dr. M.D. Godley USDA SCS | Chester, Virginia | Bank Erosion |
| 07-08-71 | Larry Dunkeson Refuge Manager, Mason Neck NWR | Woodbridge, Va. | Borrow our cannon net |
| 07-13-71 | Virginia Commonwealth University Ornithology Class | Richmond, Va. | Field Trip |
| 07-18-71 | Va. Game Warden Jim Holt | Powhatan, Va. | Courtesy Call |
| 07-30-71 | Larry Dunkeson Refuge Manager, Mason Neck NWR | Woodbridge, Va. | Return cannon net, tour refuge |
| 08-03-71 | Dabney S. Lancaster Community College Forest Technology Class | Clifton Forge, Va. | Wildlife Observation |
| 08-06-71 | Virginia Commonwealth University Entomology Class | Richmond, Va. | Field Trip |
| 08-17-71 | Jim Chudoba, Fred Givens USDA SCS | Chester, Va. | Bank Erosion |
| 09-07-71 | Walter Stieglitz Regional Office | Atlanta, Georgia | Comprehensive Inspection and Objectives |
| 09-25-71 | 50 members of the Bermuda Optimist Club | Enon, Va. | Picnic |
| 09-26-71 | Earl Cunningham | USFWS Central Office | Tour |
| 10-08-71 | 126 Holders of permits for | Va., Md., Wash, D.C. | Scout island |
| 10-09-71 | bow hunt | | prior to |
| 10-10-71 | | | hunt |

| <u>Date</u> | <u>Name</u> | <u>Where From</u> | <u>Purpose</u> |
|----------------------------|---|---------------------------|--|
| 10-13-71 | 11 Cub Scouts and Leader Pack 935 | Hopewell, Va. | Wildlife Observation |
| 10-15-71 | Max Ailor Richmond Times-Dispatch | Richmond, Va. | Article on Bow Hunt |
| 10-15-71 to 11-13-71 | 628 Bow Hunters | Va. Md. Wash. D.C. | Hunting |
| 10-19-71 | Bob Young, John Yount Regional Office | Atlanta, Ga. | Rental Survey |
| 10-21-71 | Jim Chudoba, Joe Vaden Fred Givens, USDA SCS | Chester, Va. | Bank Erosion |
| 11-18-71 | St. James Kindergarten 30 children and teachers | Hopewell, Va. | Tour |
| 11-20-71 | 32 Girl Scouts and Leaders Troop 721 | Richmond, Va. | Wildlife Observation |
| 11-22-71 | John Tyler Community College Outdoor Education Class | Chester, Va. | Wildlife Management Orientation |
| 11-23-71 | Otto Florschutz Area Biologist | Washington, N.C. | Deer Exclosures; Counts |
| 11-27-71 | Oak Grove Baptist Church Royal Ambassadors | Richmond, Va. | Wildlife Observation |
| 12-11-71 | 10 Boy Scouts and Leaders Troop #404 | Richmond, Va. | Look over area for wildlife project |
| 12-15-71 | 32 students and teachers Reams Rd. Elementary School | Chester, Va. | Bird Watching |
| 12-18-71 | Dave Roszell, Dee & Ken LePeyre | Richmond Hopewell, Va. | Christmas Bird Count |
| 12-30-71 | Chester 4 H Club | Chester, Va. | Wildlife Observation |

C. Refuge Participation

The manager attended meetings and presented programs to the following groups throughout the year:

| <u>Date</u> | <u>Meeting or Program</u> |
|----------------------|---|
| 01-31-71 | Presented a talk and showed the film "But What About Tomorrow, Christine" to the environment stewardship workshop of the South Hill District of the Methodist Church. |
| 03-17-71 | Presented a talk and slide show to 25 second graders at Curtis Elementary School in Chester. |
| 04-06-71 04-07-71 | Attended refuge objectives workshop at Virginia Beach. |
| 05-21-71 05-22-71 | Refuge furnished litter bags for outdoor display at Walnut Mall Shopping Center in Petersburg. |
| 05-22-71 | Presented a talk and the film "So Little Time" to 80 members of Enon Methodist Church at Pocahontas State Park. |
| 07-21-71 | Showed the films "Story of the Mourning Dove" and "Grass and Brush Fire Fighting" to a meeting of the Prince George Volunteer Fire Department. |
| 07-29-71 | Attended the annual meeting of the Virginia Conservation Education Advisory Group in Charlottesville. |
| 08-05-71 | Attended with area farmers a tour of local plantations to note this years effect of corn blight and get information on next years seed prospects. |
| 08-23-71 | Showed the film "The Gifts" to the Bermuda Optimist Club. |
| 09-24-71 | Presented a talk and showed the film "So Little Time" to 80 area science and biology teachers at their district meeting in Colonial Heights. |

| <u>Date</u> | <u>Meeting or Program</u> |
|----------------------------|--|
| 09-27-71 | Presented a talk and showed the film "So Little Time" to 57 members and wives of the Hopewell Masonic Lodge. |
| 10-04-71 | Presented a talk and showed the film "So Little Time" to leaders and Boy Scouts of Troop 404, Richmond. |
| 10-11-71 | Presented a talk and showed the film, "Wildlife Babies" to a meeting of the Catholic Daughters of America in Hopewell. |
| 10-26-71 to 10-29-71 | Attended refuge PPBE workshop in Raleigh, N.C. |
| 11-24-71 | Gave a talk and showed a slide series of the refuge and its operations to 125 sixth graders at Matoaca Elementary School. |
| 12-02-71 | Attended a meeting of area farmers at Jordan Point Country Club in Hopewell to discuss seed corn varieties and availability for the coming year. |
| 12-07-71 | Presented a program on the history of Presquile and showed the slide series "Right to Exist" to a meeting of the Society for the Preservation of Virginia Antiquities in Hopewell. |

In addition to the meetings attended by the manager

| | |
|----------------------------|---|
| 08-04-71 | Maintenanceman Vick attended a workshop in law enforcement at Quantico, Virginia |
| 11-29-71 to 12-01-71 | Clerk-typist Mrs. Lipchak attended a workshop on PPBE procedures in Atlanta, Georgia. |

D. Hunting

Bow hunting for white tailed deer began at Presquile in the fall of 1967 and a hunt has been held each year since that time. Originally it was thought that we might be able to cut down the size of the herd in this manner; but we now know that we cannot do it by bow hunting alone. The archers, however, are some of our biggest "boosters" as they all enjoy themselves immensely and almost all get at least one shot at a deer.

In 1971 we had 10 days of hunting and allowed a maximum of 85 hunters per day. As in past years notices were placed in all area newspapers during August outlining application procedures. Prospective hunters sent in postcards giving their first three choices of hunt dates; and a drawing for permits was held on September 17 from over 500 applications received. Results of this years hunt were 22 deer checked in; 2 found dead subsequent to the hunt; and 6 believed to have been wounded badly enough to die later; for a total removal of 30 deer. This is a 15 $\frac{1}{2}$ % increase in kill over 1970; but still well below normal annual production of fawns (estimated 50 this year).

The following table gives data on deer that were checked in:

| <u>Date</u> | <u>Sex</u> | <u>Live Weight</u> | <u>Age</u> | <u>No. Points</u> |
|-------------|------------|--------------------|----------------|-------------------|
| 10/15 | Buck | 53.0 | $\frac{1}{2}$ | Button |
| 10/15 | Buck | 101.4 | $2\frac{1}{2}$ | 2 |
| 10/15 | Doe | 30.0 | $\frac{1}{2}$ | - |
| 10/15 | Doe | 92.4 | $2\frac{1}{2}$ | - |
| 10/16 | Doe | 82.0 | $1\frac{1}{2}$ | - |
| 10/16 | Buck | 34.5 | $\frac{1}{2}$ | Button |
| 10/16 | Doe | 64.2 | $1\frac{1}{2}$ | - |
| 10/16 | Buck | 53.0 | $\frac{1}{2}$ | Button |
| 10/16 | Doe | 71.4 | $1\frac{1}{2}$ | - |
| 10/21 | Buck | 64.8 | $2\frac{1}{2}$ | 2 |
| 10/21 | Buck | 36.0 | $\frac{1}{2}$ | Button |
| 10/21 | Doe | 24.6 | $\frac{1}{2}$ | - |
| 10/21 | Doe | 66.6 | $1\frac{1}{2}$ | - |
| 10/21 | Buck | 27.0 | $\frac{1}{2}$ | Button |
| 10/22 | Doe | 88.2 | $2\frac{1}{2}$ | - |
| 10/29 | Doe | 78.0 | $2\frac{1}{2}$ | - |
| 10/30 | Buck | 141.0 | $2\frac{1}{2}$ | 6 |
| 10/30 | Buck | 23.4 | $\frac{1}{2}$ | Button |
| 10/30 | Buck | 34.2 | $\frac{1}{2}$ | Button |
| 11/4 | Buck | 138.0 | $3\frac{1}{2}$ | 9 |
| 11/5 | Doe | 34.4 | $\frac{1}{2}$ | - |
| 11/12 | Buck | 110.0 | $1\frac{1}{2}$ | 4 |

Refuge objectives and plans for next fall include a special 2 day gun season held prior to the regular state gun season in early November. The same regulations will apply to gun hunters as to bow hunters; that is the requirement that they hunt from "stands", enter only on the refuge ferry etc. We plan to allow only 50 gun hunters per day, however, and they will be required to remain on their stands for the entire day rather than to 10 A.M. as the archers are required to do.

As an aside to our deer hunting program, mention should be made of the profound concern expressed by many of the archers; particularly those affiliated with clubs in the suburban Washington, D.C., Maryland, and Northern Virginia areas; over the efforts of "Friends of the Animals" and similar groups to bar hunting on refuges. Many of them expressed surprise (but relief) to know that Presquile had not been included in the suits now pending on other refuges. Local archers are not as yet concerned because hunting in this area is still a widely accepted, traditional sport and no opposition to it has reared its head up to now. Virtually all bow hunters attending our hunts are a courteous, friendly group and we sincerely hope that it never comes to pass that they will be prevented from pursuing their sport on refuges which include deer hunting as part of their management.

Waterfowl hunting on areas surrounding the refuge was relatively good during the 1970/71 season; and very poor during the 1971/72 season. The balmy, bluebird days during this fall had a great deal to do with the poor shooting, but there also were fewer birds (particularly ducks) in the area to shoot at. We were able to obtain definite kill records from three nearby hunting areas for the 1970/71 season. The data is as follows:

| | <u>Geese</u> | <u>Ducks</u> |
|--------------------|--------------|--------------|
| Curles Neck | 292 | 395 |
| Presque Isle Farm | 40 | - |
| Brandon Plantation | 37 | - |

The Curles Neck owner told me that the duck kill was the highest ever since they started keeping records. He was kind enough to give us a breakdown by species and it was as follows:

| | |
|------------------|-----|
| Mallard | 31% |
| Black | 10% |
| Pintail | 13% |
| Greenwinged Teal | 22% |
| Wood Duck | 12% |
| Widgeon | 7% |
| Shoveler | 3% |
| Gadwall | 2% |

These ratios generally follow our surveys on abundance of the various species in the area, with a few exceptions. The wood duck and black duck figures are a bit low because they discourage guests from shooting these birds unless it is to fill out a bag limit at the end of a day. Also they are higher on widgeon which we only have in token numbers on the refuge; and we never see a shoveler on our habitat either. It does point out very well the increase in greenwinged teal in the vicinity during that winter. Prior percentages on teal going back to 1965 range from a kill of 1% to 6% on Curles.

E. Violations

No cases were made this year by refuge personnel. In fact it has now been seven years since a violator was apprehended on the refuge. Some factors responsible for the low incidence of enforcement problems on this refuge are the fact that it is an island; that the surrounding lands are in large private holdings or plantations; and that the refuge waters are inaccessible except at high tide and even then you must know the creeks to avoid getting stranded on a mud flat. We also have excellent cooperation from our neighbors; with several calls coming to us if they see a suspicious light at night on the river etc. All such calls were checked out; and they usually proved to be fishermen or pleasure boaters who had not been familiar with the channel and run their craft onto the mud.

F. Safety

Our unblemished safety record of no lost time accidents since station activation in 1953 continued this year. The manager did have a minor accident when he slammed a truck door on his finger while being in too much of a hurry. The wound did require medical attention and a few stitches plus the agonizing job of filling out accident report forms.

We held eight formal safety meetings this year and held on the job safety discussions during the other months when a meeting was not held. The following safety actions were taken in 1971:

1. Safety lectures were delivered to all bow hunters on each hunt morning before they were taken to the island.
2. Purchased a new large size first aid kit for the refuge shop.
3. Purchased masks for protection of an employees' face and eyes while engaged in operations presenting this type of hazard.

4. Purchased several lengths of hose to keep outside of buildings such as the shop and quarters. At the present time this would be our most efficient way of getting water to a building fire. We, of course, also have fire extinguishers in each building and vehicle on the refuge.

VII. OTHER ITEMS

A. Items of Interest

1. Miscellaneous

A large portion of time in the office this year was spent on refuge objectives and new PPBE procedures. We can only hope and expect that the returns to us will more than make up for the effort expended.

Early in May we were fortunate to be able to move our office from the State Planters Bank Building; where it had been located since 1962, to the Tartan Building at 320 E. Broadway in Hopewell. We are indeed pleased with the new space; since it is a modern building with the offices furnished with wall to wall carpet; central air conditioning; acoustical ceilings etc. etc. Also we went to 400 sq. feet of space (from 240) and now have two separate office rooms rather than one at the old location.

This year represented our first experience with workers from the U.S. Army Transition Program (Ft. Lee). Under this program a man is allowed to work on the refuge during the last 6-12 weeks of his army service. The army continues to pay his salary and is responsible for his welfare in every other way. A total of three men worked on the refuge under this program in 1971. Two of these were truly excellent workers and gave us more than they probably got back in training experience. The third wasn't much, but he was for free. Under the terms of the program; if a manager feels that a man is hindering more than he is helping he can be sent back to the Army immediately with no questions asked. We are very satisfied with the way this program is working at our refuge; it can mean quite a bit in these times of fiscal austerity.

As is the usual case; a late buildup of Canada geese on the refuge occurred in early January, 1972. A total of 9500 Canadas were present the week of January 1 - 8 which is 500 geese more than the peak during the previous winter season.

Manager Daly is an active member of the Bermuda District Optimist Club and served it as program committee chairman during the year.

Maintenanceman Vick is Captain of the Prince George Volunteer Fire Department and also became a deputy state game warden during the past year.

Mrs. Lipchak is active in the Catholic Daughters of America and is currently serving the parish advisory board of St. James Church as secretary.

B. Photography


See the following pages.

C. Credits

Text, NR forms, and photos by Daly; typing by Mrs. Lipchak.

D. Signature

Submitted by:


Paul D. Daly
Refuge Manager

Dated: MAR 24 1972

Approved by:

Regional Office


Assistant Regional Supervisor

HABITAT COMPOSITION AND PROPOSED OBJECTIVE UNITS PRESQUITE NATIONAL WILDLIFE REFUGE

CHESTERFIELD COUNTY, VIRGINIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
77°17'

77°16'

77°15'

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
77°14'



SECRETARY OF INTERIOR
CLOSING ORDER BOUNDARY
DATED 8/13/54

LEGEND

- REFUGE BOUNDARY
- AGRICULTURAL LAND
- MARSH
- SWAMP NATURAL AREAS

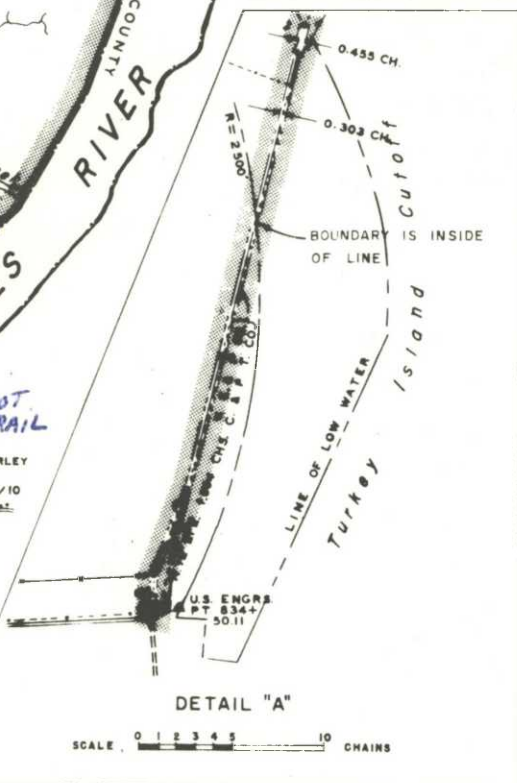
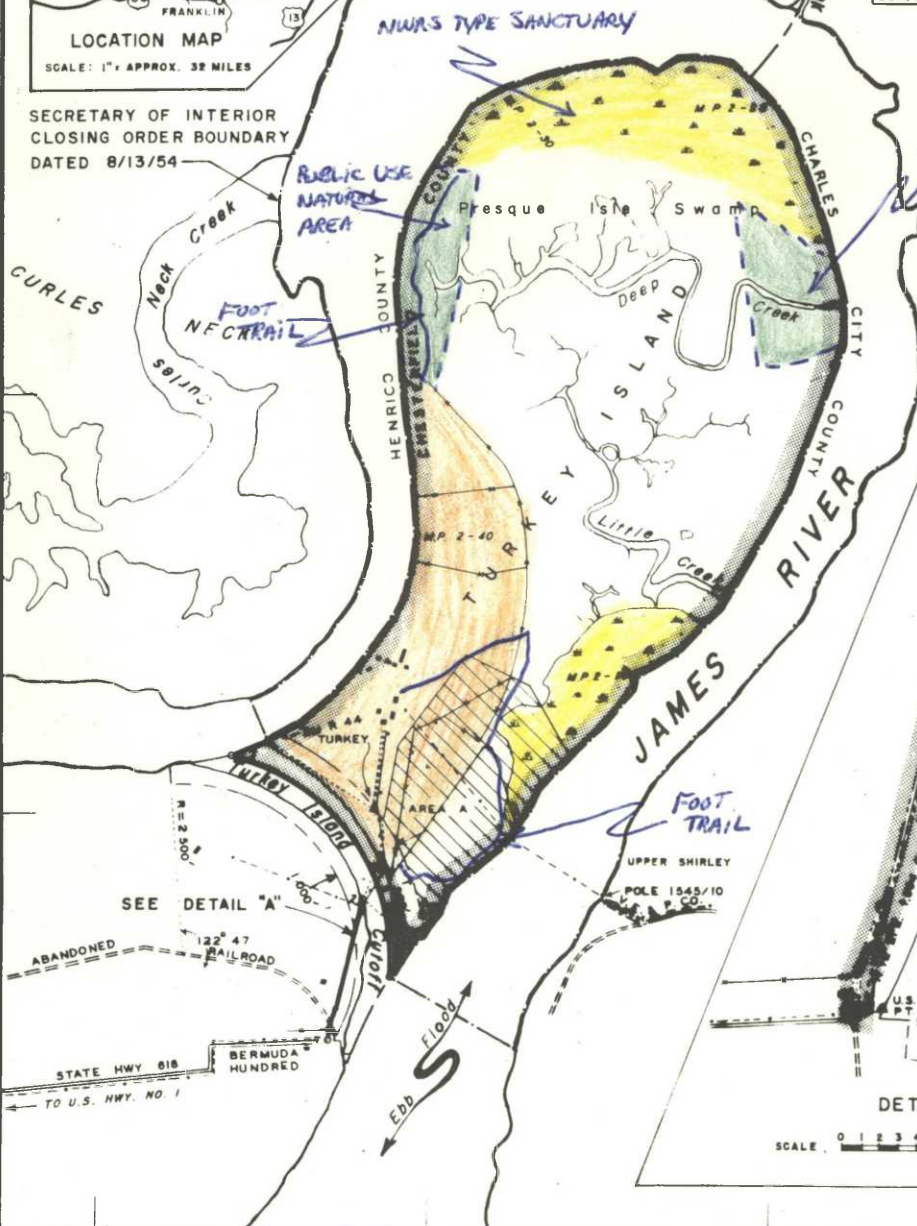
TRACT (4) DESCRIPTION
BEG. AT COR. 1, THE INTERSECTION OF LINE OF LOW WATER OF JAMES RIVER WITH CENTER LINE OF 1,000 FT. RIGHT OF WAY FOR TURKEY ISLAND CUTOFF; THENCE WITH SAID CENTER LINE ALONG A CURVE TO THE RIGHT FOR 68.08 CHS. TO COR. 2; THENCE WITH LINE OF LOW WATER UP STREAM AND ALONG THE RIGHT SHORE OF THE JAMES RIVER 488.48 CHS. TO THE P.O.B.

TRACT (4B) DESCRIPTION
BEG. AT COR. 1, THENCE WITH CENTER LINE OF STRIP OF LAND 0.303 CH. WIDE N. 2° 28' E. 2.339 CHS., N. 20° 30' E. 5.02 CHS., N. 13° 55' E. 24.80 CHS., N. 13° 55' E. CONTINUING WITH SAID CENTER LINE BUT DECREASING THE WIDTH TO 0.488 CH., 1.80 CHS. ± TO COR. 2, IN LINE OF LOW WATER.

NOTE THE TWO (2) TRACTS ARE COVERED BY PATENTS GRANTED BY THE COLONY OF VIRGINIA.

RESEARCH NATURAL AREA

NOTE: THE UNITED STATES HAS PERPETUAL RIGHTS AND EASEMENTS TO EXCAVATE CUT AWAY AND REMOVE THOSE PARTS OF TRS. (4, R) WITHIN THE 1,000 FT. R/W FOR TURKEY ISLAND CUTOFF, AND ALSO TO DEPOSIT WITH CERTAIN LIMITATIONS DREDGING MATERIALS WITHIN THAT PART OF TR. (4) IDENTIFIED THUS



COMPILED IN THE BRANCH OF REALTY FROM SURVEYS BY B.S.F.W.

ATLANTA, GEORGIA AUGUST, 1968



8-1/2°
TRUE NORTH
MAGNETIC N

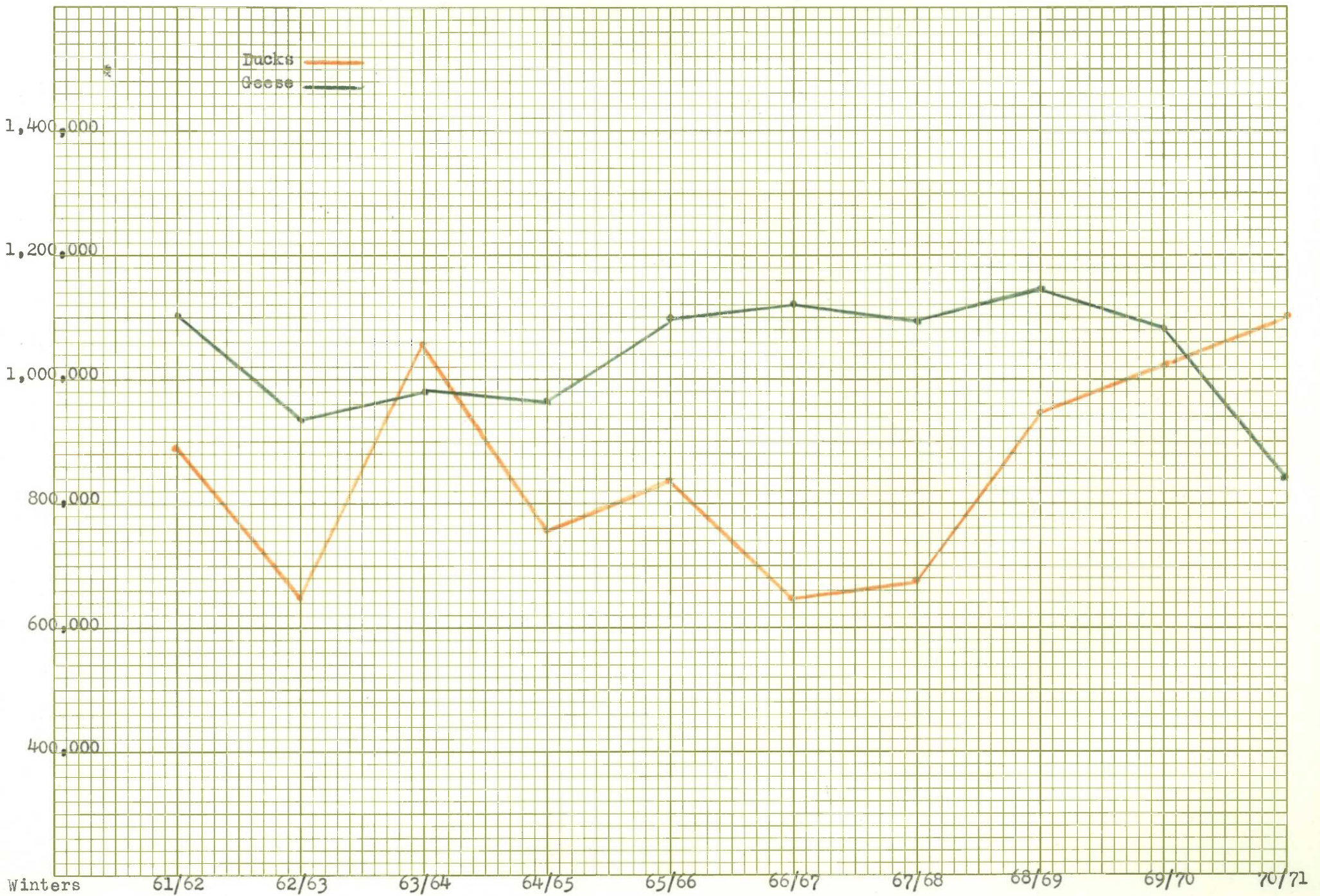
MEAN DECLINATION 1968

4R-VA-451-403

Refuge Goose and Duck Peak Populations For The Past 10 Years



Waterfowl Use Days For the Past 10 Winter Seasons



W A T E R F O W L

REFUGE Presquile N W R

MONTHS OF January 1 TO April 30, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | | | | |
|---------------------|----------------------------------|---------|-------------|-----------|-------------|----------|------------|-----------|-------------|----------|
| | : 2 days | | | | | | | | | |
| | : 1/1-1/2 | 1/3-1/9 | : 1/10-1/16 | 1/17-1/23 | : 1/24-1/30 | 1/31-2/6 | : 2/7-2/13 | 2/14-2/20 | : 2/21-2/27 | 2/28-3/6 |
| | : 1 | : 2 | : 3 | : 4 | : 5 | : 6 | : 7 | : 8 | : 9 | : 10 |
| Swans: | | | | | | | | | | |
| Whistling | | | | | | | | | | |
| Trumpeter | | | | | | | | | | |
| Geese: | | | | | | | | | | |
| Canada | 8000 | 9000 | 9000 | 7000 | 7000 | 8000 | 3000 | 3000 | 3000 | 3000 |
| Cackling | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | 20 | 20 | 20 | 20 | 25 | 25 | 20 | | 10 | |
| Blue | 150 | 150 | 150 | 150 | 200 | 200 | 175 | | 80 | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | 9100 | 2500 | 2000 | 1000 | 800 | 600 | 250 | 50 | 10 | 25 |
| Black | 4750 | 1500 | 1500 | 1800 | 1800 | 1800 | 750 | 250 | 100 | 200 |
| Gadwall | | | | | | | | | | |
| Baldpate | | | | | | | | | | |
| Pintail | 1200 | 1000 | 800 | 800 | 800 | 800 | 25 | | | |
| Green-winged teal | 1000 | 200 | 300 | 300 | 300 | 300 | 10 | | | |
| Blue-winged teal | | | | | | | | | | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | | | | | | | | | |
| Wood | 3425 | 1500 | 1200 | 1000 | 800 | 800 | 900 | 200 | 150 | 150 |
| Redhead | | | | | | | | | | |
| Ring-necked | 10 | 10 | 10 | | | | 10 | | | |
| Canvasback | | | | | | | | | | |
| Scaup | 10 | | | | | | | 10 | | |
| Goldeneye | | | | | | | | | | |
| Bufflehead | | | | | | 10 | | | | |
| Ruddy | 25 | 15 | | | | | | | | |
| -Other C. Merganser | 80 | 80 | 75 | 75 | 60 | 60 | 30 | 20 | 30 | 30 |
| Hooded Merganser | | | | | | | | | | 10 |
| Coot | | | 10 | 10 | 25 | 25 | 25 | 25 | 35 | 25 |

3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Presquile N W R

MONTHS OF January 1 TO April 30, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | (3) 6 days: Estimated waterfowl | | (4) Production: Broods: Estimated | |
|------------------------|----------------------------------|---------|---------|----------|--------|---------|------------------------------------|---------|--------------------------------------|--------------|
| | 3/7-13 | 3/14-20 | 3/21-27 | 3/28-4/3 | 4/4-10 | 4/11-17 | 4/18-24 | 4/25-30 | days use | seen : total |
| Swans: | | | | | | | | | | |
| Whistling | | | | 75 | | | | | 525 | |
| Trumpeter | | | | | | | | | | |
| Geese: | | | | | | | | | | |
| Canada | 3000 | 1000 | 25 | | 300 | 300 | | 10 | 412,435 | |
| Cackling | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | | | | | | | | | 1,020 | |
| Blue | | | | | | | | | 8,035 | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | 25 | 15 | | | 5 | 5 | 5 | 5 | 69,260 | |
| Black | 200 | 100 | | 20 | 15 | 15 | 15 | 20 | 80,075 | |
| Gadwall | | | | | | | | | | |
| Baldpate | | | | | | | | | | |
| Pintail | | | | | | | | | 31,975 | |
| Green-winged teal | | | | | | | | | 11,870 | |
| Blue-winged teal | | | | | | | 10 | | 60 | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | | | | | | | | | |
| Wood | 150 | 150 | 25 | 150 | 150 | 150 | 150 | 160 | 61,185 | |
| Redhead | | | | | | | | | | |
| Ring-necked | | | | | | | | | 230 | |
| Canvasback | | | | | | | | | | |
| Scaup | | | | | | | | | 90 | |
| Goldeneye | | | | | | | | | | |
| Bufflehead | | | | | | | | | 70 | |
| Ruddy | | | | | | | | | 155 | |
| Other C. Merganser | 30 | 30 | 4 | 5 | 5 | 5 | 5 | 5 | 3998 | |
| Hooded Merganser | 10 | | | | | | | | 140 | |
| Coot: | 25 | 15 | 5 | 10 | 15 | 15 | 15 | | 1960 | |
| Red breasted Merganser | | | | | | | | 10 | 60 | |

(Over)

(0481)

| | (5) | (6) | (7) | SUMMARY |
|--|----------------|-------------|------------------|--|
| | Total Days Use | Peak Number | Total Production | |
| Swans | 525 | 75 | 0 | Principal feeding areas <u>Geese- refuge fields and marshes:</u> |
| Geese | 421,490 | 9170 | 0 | <u>Ducks - refuge swamp and marshes.</u> |
| Ducks | 259,168 | 19,600 | 0 | Principal nesting areas |
| Coots | 1960 | 35 | 0 | |
| Reported by <u>Paul D. Daly - Refuge Manager</u> | | | | |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

RECEIVED

(RECEIVED 10/22/54)
COUNTY OF MICHIGAN
JANUARY 1955

(CONTINUATION SHEET)
WILDLIFE REFUGES

MONTHS OF JANUARY 1955

3-1750
Form NR-1
(Rev. March 1953)

W A T E R F O W L

REFUGE Presquile NWR

MONTHS OF May 1 TO August 31, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | | | | |
|--------------------|----------------------------------|----------|---------|-----------|------------|----------|-----------|-----------|------------|------------|
| | : 8 days | | | | | | | | | |
| | : 5/1-5/8 | 5/9-5/15 | 5/16-22 | : 5/23-29 | : 5/30-6/5 | : 6/6-12 | 6/13-6/19 | : 6/20-26 | : 6/27-7/3 | : 7/4-7/10 |
| | : 1 | : 2 | : 3 | : 4 | : 5 | : 6 | : 7 | : 8 | : 9 | : 10 |
| Swans: | | | | | | | | | | |
| Whistling | | | | | | | | | | |
| Trumpeter | | | | | | | | | | |
| Geese: | | | | | | | | | | |
| Canada | 5 | 5 | 5 | 5 | 5 | | | | | |
| Cackling | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | | | | | | | | | | |
| Blue | | | | | | | | | | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Black | 20 | 20 | 20 | 20 | 20 | 15 | 15 | 15 | 15 | 15 |
| Gadwall | | | | | | | | | | |
| Baldpate | | | | | | | | | | |
| Pintail | | | | | | | | | | |
| Green-winged teal | | | | | | | | | | |
| Blue-winged teal | 10 | 6 | 6 | 6 | 6 | | | | | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | | | | | | | | | |
| Wood | 160 | 160 | 160 | 160 | 170 | 170 | 170 | 170 | 170 | 170 |
| Redhead | | | | | | | | | | |
| Ring-necked | | | | | | | | | | |
| Canvasback | | | | | | | | | | |
| Scaup | | | | | | | | | | |
| Goldeneye | | | | | | | | | | |
| Bufflehead | | | | | | | | | | |
| Ruddy | | | | | | | | | | |
| Other C. Merganser | 5 | 5 | 5 | | | | | | | |

3-1750a
 Cont. NR-1
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE Presquile NWR

MONTHS OF May 1 TO August 31, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | | | (3) 3 days: Estimated waterfowl days use | (4) Production Broods : Estimated seen : total | |
|--------------------|----------------------------------|---------|---------|-------|--------|---------|---------|---------|--|---|----|
| | 7/11-17 | 7/18-24 | 7/25-31 | 8/1-7 | 8/8-14 | 8/15-21 | 8/22-28 | 8/29-31 | | | |
| Swans: | | | | | | | | | | | |
| Whistling | | | | | | | | | | | |
| Trumpeter | | | | | | | | | | | |
| Geese: | | | | | | | | | | | |
| Canada | | | | | | | | | 180 | | |
| Cackling | | | | | | | | | | | |
| Brant | | | | | | | | | | | |
| White-fronted | | | | | | | | | | | |
| Snow | | | | | | | | | | | |
| Blue | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Ducks: | | | | | | | | | | | |
| Mallard | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 615 | | |
| Black | 15 | 15 | 15 | 15 | 15 | 20 | 20 | 20 | 2110 | | |
| Gadwall | | | | | | | | | | | |
| Baldpate | | | | | | | | | | | |
| Pintail | | | | | | | | | | | |
| Green-winged teal | | | | | | | | | | | |
| Blue-winged teal | | | | | | | | | 248 | | |
| Cinnamon teal | | | | | | | | | | | |
| Shoveler | | | | | | | | | | | |
| Wood | 170 | 170 | 170 | 170 | 165 | 165 | 165 | 165 | 20,500 | 9 | 60 |
| Redhead | | | | | | | | | | | |
| Ring-necked | | | | | | | | | | | |
| Canvasback | | | | | | | | | | | |
| Scaup | | | | | | | | | | | |
| Goldeneye | | | | | | | | | | | |
| Bufflehead | | | | | | | | | | | |
| Ruddy | | | | | | | | | | | |
| Other C. Merganser | | | | | | | | | 110 | | |
| Coot: | | | | | | | | | | | |

(Over)

(CASE)

| | (5) | (6) | (7) | SUMMARY |
|-------|----------------|---------------|--------------------|--|
| | Total Days Use | : Peak Number | : Total Production | |
| Swans | 0 | : 0 | : 0 | Principal feeding areas <u>Refuge swamp and marshes.</u> |
| Geese | 180 | : 5 | : 0 | |
| Ducks | 23,583 | : 201 | : 60 | Principal nesting areas <u>Swamp creeks, east marsh,</u> |
| Coots | 0 | : 0 | : 0 | <u>north marsh.</u> |
| | | | | Reported by <u>Paul D. Daly Refuge Manager</u> |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

RECEIVED

(RECEIVED 1953)
CONF. MB-T
3-11209

(COMPLETION DATE)
AVAILABILITY

WORKING ON MAY 1 1953

3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Prairie NWR

MONTHS OF Sept. 1 TO Dec. 31, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | | | (3) 6 days Estimated waterfowl days use | (4) Production Broods : Estimated seen : total |
|--------------------|----------------------------------|----------|----------|------------|-------|-------|-------|----------|---|---|
| | 11/7-13 | 11/14-20 | 11/21-27 | 11/28-12/4 | 12/11 | 12/18 | 12/25 | 12/26-31 | | |
| Swans: | | | | | | | | | | |
| Whistling | | | | | | | | | | |
| Trumpeter | | | | | | | | | | |
| Geese: | | | | | | | | | | |
| Canada | 3000 | 6500 | 6500 | 8500 | 8000 | 7000 | 7000 | 7000 | 418950 | |
| Cackling | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | 25 | 25 | 30 | 20 | 25 | 25 | 25 | 30 | 1965 | |
| Blue | 175 | 200 | 200 | 150 | 175 | 175 | 175 | 200 | 13310 | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | 850 | 3500 | 3500 | 2800 | 2500 | 7500 | 7500 | 7500 | 280750 | |
| Black | 1200 | 3500 | 3500 | 2100 | 2500 | 3100 | 3100 | 3200 | 186810 | |
| Gadwall | | | 20 | | | | 10 | | 280 | |
| Baldpate | | | | 75 | | | | | 525 | |
| Pintail | | 200 | 500 | 10 | 600 | 650 | 650 | 1000 | 31270 | |
| Green-winged teal | | 30 | 50 | 50 | 25 | 200 | 200 | 30 | 4940 | |
| Blue-winged teal | | | | | | | | | 525 | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | | | | | | | | | |
| Wood | 2600 | 1000 | 2000 | 1000 | 800 | 1500 | 1500 | 1900 | 163500 | |
| Redhead | | | | | | | | | | |
| Ring-necked | 5 | | 25 | 20 | | | | | 350 | |
| Canvasback | | | | | | | | | | |
| Scaup | | | | | | | | | 35 | |
| Goldeneye | | | | | | | | | | |
| Bufflehead | | | | | | | | | | |
| Ruddy | | | | | 5 | | | | 70 | |
| Other C. Merganser | | | | 5 | 75 | 75 | 75 | 50 | 1910 | |
| Coot: | 25 | 20 | 25 | 20 | 25 | 30 | 30 | 30 | 1580 | |

(Over)

| | (5) Total Days Use | : | (6) Peak Number | : | (7) Total Production | SUMMARY |
|---|-----------------------|---|--------------------|---|-------------------------|--|
| Swans | <u>None</u> | : | <u>0</u> | : | <u>0</u> | Principal feeding areas <u>Geese-refuge fields and Curles Neck</u> |
| Geese | <u>434,225</u> | : | <u>8670</u> | : | <u>0</u> | <u>area. Ducks - refuge swamp and marshes.</u> |
| Ducks | <u>670,965</u> | : | <u>13,680</u> | : | <u>0</u> | Principal nesting areas _____ |
| Coots | <u>1580</u> | : | <u>30</u> | : | <u>0</u> | |
| Reported by <u>Paul D. Daly</u> <u>Refuge Manager</u> | | | | | | |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

RELUCS

(Rel. Notes 1023)
Comp. HB-J
3-11-20

(Continuation Sheet)
AVIATION

MONTH OF 2020

10 Dec 31

1037

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Presquile NWR

Months of January 1 to April 30 19 71

| (1) Species | (2) First Seen | | (3) Peak Concentration | (4) Last Seen | | (5) Production | | (6) Total |
|--|-------------------|------|---------------------------|------------------|--------|-------------------|---|---------------|
| Common Name | Number | Date | Number | Inclusive Dates | Number | Date | Number Colonies Total # Nests Total Young | Estimated Use |
| I. Water and Marsh Birds: | | | | | | | | |
| Great Blue Heron | 20 | 1/1 | 26 | 2/20 | 20 | 4/30 | | 2640 |
| Little Green Heron | 2 | 4/26 | 2 | 4/26 | 1 | 4/30 | | 8 |
| American Egret | 2 | 4/26 | 2 | 4/26-30 | 2 | 4/30 | | 8 |
| Cattle Egret | 5 | 4/15 | 5 | 4/15-26 | 5 | 4/26 | | 55 |
| Pied-Billed Grebe | 8 | 1/1 | 8 | 1/1 | 1 | 4/2 | | 552 |
| Horned Grebe | 2 | 1/1 | 2 | 1/1 | 1 | 1/31 | | 62 |
| American Bittern | 1 | 4/9 | 1 | 4/9 | 1 | 4/9 | | 1 |
| Little Blue Heron | 1 | 4/28 | 1 | 4/28-30 | 1 | 4/30 | | 2 |
| Wading Hawk | 1 | 1/1 | 1 | 1/1-1/30 | 1 | 1/30 | | 150 |
| Sharp-shinned Hawk | 3 | 1/1 | 3 | 1/1-1/30 | 1 | 1/30 | | 170 |
| Red-shouldered Hawk | 5 | 1/1 | 5 | 1/1-3/12 | 1 | 3/10 | | 130 |
| Swainson's Hawk | 1 | 1/1 | 1 | 1/1 | 1 | 1/30 | | 1 |
| Red-shouldered Hawk | 2 | 1/1 | 2 | 1/1-1/30 | 2 | 1/30 | | 200 |
| Red-shouldered Hawk | 2 | 1/1 | 2 | 1/1-1/30 | 2 | 1/30 | | 150 |
| Red-shouldered Hawk | 1 | 5/53 | 1 | 5/53-1/1 | 1 | 1/1 | | 23 |
| Red-shouldered Hawk | 1 | 1/1 | 1 | 1/1 | 1 | 1/30 | | 12 |
| II. Shorebirds, Gulls, and Terns: | | | | | | | | |
| Ring-Billed Gull | 200 | 1/1 | 350 | 3/10 | 80 | 4/30 | | 25,200 |
| Herring Gull | 85 | 1/1 | 85 | 1/1 | 25 | 4/30 | | 7,800 |
| Great Black Backed Gull | 6 | 1/1 | 6 | 1/1 | 1 | 2/26 | | 228 |
| Laughing Gull | 6 | 4/3 | 50 | 4/30 | 50 | 4/30 | | 945 |
| Common Snipe | 30 | 1/1 | 30 | 1/1-2/10 | 5 | 3/15 | | 1,628 |
| Killdeer | 4 | 1/1 | 16 | 3/16 | 8 | 4/30 | | 1,080 |
| Caspian Tern | 1 | 4/18 | 15 | 4/26 | 5 | 4/30 | | 84 |
| Forsters Tern | 1 | 4/26 | 1 | 4/26-30 | 1 | 4/30 | | 4 |
| Greater Yellowlegs | 5 | 4/26 | 5 | 4/26-30 | 5 | 4/30 | | 20 |

(over)

(OASL)

| | (2) | (3) | (4) | (5) | (6) | | |
|------------------------|-----|-----|-----|-----------|-----|------|--------|
| II. Doves and Pigeons: | | | | | | | |
| Mourning dove | 230 | 1/1 | 200 | 1/20-2/15 | 60 | 4/30 | 11,640 |
| White-winged dove | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
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| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
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| | J | 1/1 | J | 1/1 | J | 1/30 | 1 |
| | J | 1/1 | J | 1/1 | J | 1/30 | |

Reported by Paul D. Daly, Refuge Manager-600

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

(1) Species:

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)

II. Shorebirds, Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first migration record for the species for the reporting period.

(3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751

Form NR-1A

(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)Refuge Presquile NWRMonths of May 1to August 3119 71

| (1) Species | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Production | | | (6) Total |
|--|-------------------|------|---------------------------|-----------------|------------------|------|-------------------|---------------|-------------|---------------|
| Common Name | Number | Date | Number | Inclusive Dates | Number | Date | Number Colonies | Total # Nests | Total Young | Estimated Use |
| I. <u>Water and Marsh Birds:</u> | | | | | | | | | | |
| Great Blue Heron | 20 | 5/1 | 22 | 6/18 | 20 | 8/31 | | | | 2,583 |
| Little Green Heron | 1 | 5/1 | 4 | 7/16 | 2 | 8/31 | | | | 246 |
| American Egret | 2 | 5/1 | 27 | 8/30 | 25 | 8/31 | | | | 2,214 |
| Little Blue Heron | 1 | 5/1 | 6 | 7/16 | 2 | 8/16 | | | | 324 |
| Louisiana Heron | 1 | 7/16 | 1 | 7/16 | 1 | 7/16 | | | | 1 |
| Cattle Egret | 7 | 5/9 | 7 | 5/9 | 3 | 5/21 | | | | 60 |
| Black Crowned Night Heron | 1 | 5/21 | 1 | 5/21 | 1 | 5/21 | | | | 1 |
| | | | | | | | | | | |
| | 2 | 2/1 | 2 | 2/1-8/31 | 2 | 8/31 | | | | 252 |
| | 1 | 2/1 | 1 | 2/1-8/31 | 1 | 8/31 | | | | 153 |
| | 2 | 2/1 | 2 | 2/1-8/31 | 3 | 8/31 | | | | 425 |
| | 2 | 2/1 | 2 | 2/1-8/31 | 2 | 8/31 | | | | 338 |
| | 1 | 2/1 | 1 | 2/1-2/12 | 1 | 2/12 | | | | 12 |
| | 1 | 2/12 | 3 | 2/1-2/12 | 1 | 2/12 | | | | 52 |
| | 20 | 2/1 | 20 | 8/31 | 30 | 8/31 | | | | 4,250 |
| II. <u>Shorebirds, Gulls, and Terns:</u> | | | | | | | | | | |
| Ring Billed Gull | 80 | 5/1 | 140 | 5/21 | 70 | 8/31 | | | | 11,931 |
| Herring Gull | 25 | 5/1 | 60 | 7/16 | 45 | 8/31 | | | | 5,289 |
| Laughing Gull | 50 | 5/1 | 150 | 8/10 | 130 | 8/31 | | | | 13,630 |
| Caspian Tern | 5 | 5/1 | 5 | 5/1 | 3 | 5/2 | | | | 8 |
| Least Tern | 1 | 5/12 | 1 | 5/12 | 1 | 5/12 | | | | 1 |
| Forster's Tern | 1 | 5/1 | 12 | 7/14 | 3 | 8/31 | | | | 615 |
| Common Tern | 2 | 5/10 | 14 | 8/6 | 1 | 8/31 | | | | 678 |
| Greater Yellowlegs | 5 | 5/1 | 8 | 6/18 | 3 | 8/31 | | | | 615 |
| Killdeer | 8 | 5/1 | 8 | 5/1-5/15 | 13 | 8/31 | | | | 738 |
| Solitary Sandpiper | 2 | 5/9 | 2 | 5/9-5/14 | 2 | 5/14 | | | | 10 |
| Spotted Sandpiper | 1 | 5/15 | 2 | 5/25 | 1 | 5/31 | | | | 16 |

(over)

(OASL)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------------|-----|------|-----|----------|-----|------|
| II. Doves and Pigeons: | | | | | | |
| Mourning dove | 60 | 5/1 | 200 | 8/2 | 150 | 8/31 |
| White-winged dove | | | | | | |
| IV. Predaceous Birds: | | | | | | |
| Golden eagle | | | | | | |
| Duck hawk | | | | | | |
| Horned owl | | | | | | |
| Magpie | | | | | | |
| Raven | | | | | | |
| Crow | 40 | 5/1 | 50 | 8/10 | 30 | 8/31 |
| Bald Eagle | 1 | 5/17 | 2 | 5/20 | 1 | 6/15 |
| Osprey | 1 | 5/1 | 1 | 5/1-5/15 | 1 | 5/15 |
| Red-tailed Hawk | 6 | 5/1 | 6 | 5/1-8/31 | 6 | 8/31 |
| Red Shouldered Hawk | 5 | 5/1 | 5 | 5/1-6/15 | 3 | 8/31 |
| Barn Owl | 1 | 5/1 | 1 | 5/1-8/31 | 1 | 8/31 |
| Barred Owl | 5 | 5/1 | 6 | 6/10 | 5 | 8/31 |

Reported by Paul D. Daly Refuge Manager

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751

Form NR-1A

(Aug. 1952)

MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Presquile NWRMonths of September 1 to December 31,19 71

| (1) Species Common Name | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Production | | (6) Total |
|----------------------------------|-------------------|-------|---------------------------|-----------------|------------------|-------|-------------------|---------------|------------------------------|
| | Number | Date | Number | Inclusive Dates | Number | Date | Number Colonies | Total # Nests | Total Young Estimated Use |
| I. Water and Marsh Birds: | | | | | | | | | |
| Great Blue Heron | 20 | 9/1 | 20 | 9/1-12/31 | 20 | 12/31 | | | 2440 |
| Little Green Heron | 2 | 9/1 | 2 | 9/1-9/10 | 1 | 9/20 | | | 40 |
| American Egret | 25 | 9/1 | 27 | 9/18 | 1 | 11/13 | | | 1332 |
| Sora Rail | 5 | 9/3 | 50 | 9/30 | 4 | 11/13 | | | 1220 |
| Common Gallinule | 1 | 12/16 | 4 | 12/18 | 2 | 12/31 | | | 30 |
| Pied Billed Grebe | 1 | 9/8 | 6 | 12/10 | 3 | 12/31 | | | 342 |
| Horned Grebe | 1 | 11/18 | 1 | 11/18-12/31 | 1 | 12/31 | | | 43 |
| Ring-Billed Gull | 70 | 9/1 | 200 | 12/1-12/31 | 200 | 12/31 | | | 19154 |
| Herring Gull | 45 | 9/1 | 75 | 12/1-12/31 | 75 | 12/31 | | | 7930 |
| Laughing Gull | 130 | 9/1 | 130 | 9/1-9/20 | 2 | 11/9 | | | 6090 |
| Great Black-Backed Gull | 2 | 11/21 | 15 | 12/18 | 12 | 12/31 | | | 400 |
| Forster's Tern | 3 | 9/1 | 12 | 9/22 | 1 | 10/21 | | | 255 |
| Common Tern | 1 | 9/1 | 2 | 9/22 | 1 | 9/30 | | | 30 |
| Greater Yellowlegs | 3 | 9/1 | 3 | 9/1-9/10 | 2 | 9/25 | | | 75 |
| Killdeer | 3 | 9/1 | 50 | 12/21 | 30 | 12/31 | | | 3416 |
| Common Snipe | 40 | 11/11 | 100 | 12/16 | 55 | 12/31 | | | 3250 |

(over)

| (1) | (2) | (3) | (4) | (5) | (6) | | |
|--------------------------------|-----|-------|-----|-------------|-----|-------|-------|
| .II. <u>Doves and Pigeons:</u> | | | | | | | |
| Mourning dove | 150 | 9/1 | 500 | 10/2 | 40 | 12/31 | 28060 |
| White-winged dove | 3 | 9/1 | 30 | 10/2 | 30 | 12/31 | 3070 |
| | 3 | 9/1 | 3 | 10/2-10/30 | 3 | 12/31 | 32 |
| | 3 | 9/1 | 3 | 10/30 | 3 | 12/31 | 30 |
| | 3 | 9/1 | 3 | 10/30 | 3 | 12/31 | 322 |
| IV. <u>Predaceous Birds:</u> | | | | | | | |
| Golden eagle | 15 | 11/18 | 121 | 11/18 | 11 | 11/18 | 1 |
| Duck hawk | 130 | 9/1 | 130 | 10/2-10/30 | 3 | 12/31 | 9030 |
| Horned owl | 12 | 9/1 | 12 | 10/2-10/30 | 12 | 12/31 | 1230 |
| Magpie | 30 | 9/1 | 300 | 10/2-10/30 | 300 | 12/31 | 12320 |
| Raven | | | | | | | |
| Crow | 30 | 9/1 | 50 | 11/26 | 35 | 12/31 | 4636 |
| Bald Eagle | 1 | 11/11 | 2 | 11/18-12/31 | 2 | 12/31 | 100 |
| Osprey | 1 | 9/10 | 1 | 9/10-9/13 | 1 | 9/13 | 4 |
| Red Tailed Hawk | 6 | 9/1 | 6 | 9/1-12/31 | 6 | 12/31 | 732 |
| Red Shouldered Hawk | 3 | 9/1 | 4 | 12/18 | 3 | 12/31 | 366 |
| Coopers Hawk | 1 | 12/11 | 1 | 12/11-12/31 | 1 | 12/31 | 20 |
| Marsh Hawk | 1 | 11/5 | 2 | 12/10 | 1 | 12/31 | 56 |
| Sparrow Hawk | 1 | 11/9 | 3 | 12/18 | 2 | 12/31 | 104 |
| Barred Owl | 5 | 9/1 | 5 | 9/1-12/31 | 5 | 12/31 | 610 |
| Barn Owl | 1 | 9/1 | 2 | 11/6-12/31 | 2 | 12/31 | 244 |

Reported by Paul D. Daly

Reported by Paul D. Daly

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Presquile NWR For 12-month period ending August 31, 19 71

Reported by Paul D. Daly Title Refuge Manager

| (1) | (2) | (3) | (4) | (5) |
|--------------|---------|---------|-----------------|------------|
| Area or Unit | Habitat | | Breeding | |
| Designation | Type | Acreage | Use-days | Population |
| | Crops | 239 | Ducks 1,130,106 | 180 |
| | Upland | 81 | Geese 852,770 | 0 |
| | Marsh | 250 | Swans 553 | 0 |
| | Water | 1629 | Coots 5,965 | 0 |
| | Total | 2199 | Total 1,989,394 | 180 |
| | Crops | | Ducks | 60 |
| | Upland | | Geese | 0 |
| | Marsh | | Swans | 0 |
| | Water | | Coots | 0 |
| | Total | | Total | 60 |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |
| | Crops | | Ducks | |
| | Upland | | Geese | |
| | Marsh | | Swans | |
| | Water | | Coots | |
| | Total | | Total | |

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.

(5) Production: Estimated total number of young raised to flight age.

3-1752
(Form NR-2)
(April 1946)

UPLAND GAME BIRDS

Refuge Presquile N W R

Months of January 1 to April 30, 1971

| (1) Species | (2) Density | (3) Young Produced | | | (4) Sex Ratio | (5) Removals | | | (6) Total | (7) Remarks |
|-----------------|--|--------------------------|------------------------------|--------------------|------------------------|-----------------|---------------------|-----------------|--|--|
| Common Name | Cover types, total acreage of habitat | Acres per Bird | Number broods observed | Estimated Total | Percentage | Hunting | For Re- stocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Bob-White Quail | Field borders and swamp edges (300 acres) | 6 | 0 | 0 | Unknown | 0 | 0 | 0 | 50 | High population for this refuge and time of year. |
| Turkey | Entire refuge hardwood swamp, marshes, and uplands (1329 acres) | 53 | 0 | 0 | 3 Males to 1 Female | 0 | 0 | 0 | 25 | Continued high population 22 turkey seen at one time on January 5 in swamp near Deep Creek. |
| Pheasant | Uplands and edges | 150 | 0 | 0 | 1:1 | 0 | 0 | 0 | 2 | |

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

*Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

Months of May 1 to August 31, 1971

| (1) Species | (2) Density | (3) Young Produced | (4) Sex Ratio | (5) Removals | (6) Total | (7) Remarks | | |
|-----------------|---|--------------------------|------------------------------|--------------------|------------------------|---|--|--|
| Common Name | Cover types, total acreage of habitat | Acres per Bird | Number broods observed | Estimated Total | Percentage | Hunting For Re- stocking For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Bob-White Quail | Field borders and swamp edges (300 acres) | 3 | 5 | 60 | Unknown | 0 0 0 | 100 | Highest quail population in refuge history. An excellen production year |
| Turkey | Entire refuge, hardwood swamp marshes and uplands (1329 acres) | 53 | 0 | Unk if any | 3 Males to 1 Female | 0 0 0 | 25 | High proportion of gobblers felt to limit production severely. |
| Pheasant | None seen during this period. | | | | | | | |

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

*Only columns applicable to the period covered should be used.

3-1752
(Form NR-2)
(April 1946)

UPLAND GAME BIRDS

Refuge Presquile NWR

Months of September 1 to December 31, 1971

| (1) Species | (2) Density | (3) Young Produced | | | (4) Sex Ratio | (5) Removals | | | (6) Total | (7) Remarks |
|-----------------|--|--------------------------|------------------------------|--------------------|------------------------|-----------------|---------------------|-----------------|--|--|
| Common Name | Cover types, total acreage of habitat | Acres per Bird | Number broods observed | Estimated Total | Percentage | Hunting | For Re- stocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Bob-White Quail | Field borders and swamp edges (300 acres) | 4 | 0 | 0 | Unknown | 0 | 0 | 0 | 75 | Three coveys known |
| Turkey | Entire refuge hardwood swamp and marshes (1329 acres) | 66 | 0 | 0 | 3 Males to 1 Female | 0 | 0 | 0 | 20 | Highest count at one time was 8 in December |
| Pheasant | Uplands and edges (300 acres) | 150 | 0 | 0 | 1:1 | 0 | 0 | 0 | 2 | |

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

*Only columns applicable to the period covered should be used.

Form NR-3
(June 1945)

BIG GAME

Refuge Presquile NWR

Calendar Year 1971

| (1) Species | (2) Density | (3) Young Produced | (4) Removals | | | | (5) Losses | | | (6) Introductions | | (7) Estimated Total Refuge Population | | (8) Sex Ratio |
|----------------------|--|--------------------------|-----------------|---------------------|------|-----------------|---------------|-----------|----------------|----------------------|--------|--|---------------------|---------------------|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease * | Winter Loss | Number | Source | At period of Greatest use | As of Dec. 31 | |
| White-tailed deer | Entire refuge (1329 acres) | 50 | 24 | | | | | 6 | 6 | | | 200 | 180 | 1:1 |

Remarks: * Indicates deer shot during the bow hunt and believed dead through infection or loss of blood etc. but
not found.

Reported by

Paul D. Daly

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116000

Remarks: * Indicates deer shot during the bow hunt and believed dead through infection or loss of blood etc. but

Carl P. Doherty

Reported by

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Presquile N W R

Year ending April 30, 1971

| (1) Species | (2) Density | (3) Removals | | | | | | | (4) Disposition of Furs | | | | | | (5) Total |
|-------------------|--|------------------------|---------|----------------|----------------------|---------------------|-------------------|------------------|----------------------------|-----------------|--|---------------------------------|-----------------|-------------------|-----------------|
| Common Name | Cover Types & Total Acreage of Habitat | Acres Per Animal | Hunting | Fur Harvest | Predator Control* | For Re- stocking | For Re- search | Share Trapping | | | | Total Refuge Furs Shipped | Furs Donated | Furs Destroyed | Popula- tion |
| | | | | | | | | Permit Number | Trappers' Share | Refuge Share | | | | | |
| Raccoon | 1329 acres-entire refuge | 10.6 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 125 |
| Muskrat | Marsh, river and creek banks (600 ac.) | 2.4 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 250 |
| Striped Skunk | Uplands and edges (300 acres) | 12 | 0 | 0 | 3 | 0 | 0 | | | | | | | | 25 |
| Opossum | Uplands and edges (300 acres) | 20 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 15 |
| Grey Squirrel | Hardwood swamp and edges (800 Acres) | 4 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 200 |
| Groundhog | Uplands, edges, and river banks (348 Ac.) | 6.9 | 0 | 0 | 20 | 0 | 0 | | | | | | | | 50 |
| Red Fox | 1200 Acres | 200 | 0 | 0 | 1 | 0 | 0 | | | | | | | | 6 |
| Cottontail Rabbit | Fields and Edges (300 Acres) | 15 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 20 |
| Beaver | Tidal swamp and Marsh | 250 | 0 | 0 | 0 | 0 | 0 | | | | | | | | 4* |

*List removals by Predator Animal Hunter.

*List removals by Predator Animal Hunter.

REMARKS: *Beavers have lodge on farm pond across East Channel from refuge and travel back and forth.

Reported by Paul D. Daly

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i.e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1755

Form NR-5
60701

DISEASE

Refuge Presquile NWR Year 19 71

Botulism

Lead Poisoning or other Disease

Period of outbreak September 20 - 27, 1971Period of heaviest losses September 25, 26

Losses:

| | Actual Count | Estimated |
|----------------|---------------|---------------|
| (a) Waterfowl | <u>8</u> | <u>8</u> |
| (b) Shorebirds | <u> </u> | <u> </u> |
| (c) Other | <u> </u> | <u> </u> |

| Number Hospitalized | No. Recovered | % Recovered |
|---------------------|---------------|---------------|
| (a) Waterfowl | <u> </u> | <u> </u> |
| (b) Shorebirds | <u> </u> | <u> </u> |
| (c) Other | <u> </u> | <u> </u> |

Areas affected (location and approximate acreage) Penned wood ducks in spoils area.

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.)

4" average depth of water in pen. Remaining ducks were removed from the pen for four weeks; they were returned after numerous rains and cool weather occurred - no more losses noted after 9/27.

Condition of vegetation and invertebrate life mud flats

Remarks Opinion of pathologist at state animal health laboratory was that ducks possibly fed on maggots from bird previously killed by red tailed hawk.

Kind of disease NoneSpecies affected

| Number Affected Species | Actual Count | Estimated |
|-------------------------|---------------|---------------|
| <u> </u> | <u> </u> | <u> </u> |
| <u> </u> | <u> </u> | <u> </u> |
| <u> </u> | <u> </u> | <u> </u> |

Number Recovered Number lost Source of infection Water conditions Food conditions Remarks

MONTHLY RECREATIONAL USE REPORT

Refuge name
Presquile NWR
State
Virginia

State
Code **46**
(1-2)

Congressional
District Code **03**
(3-4)

Refuge
Code **455**
(5-7)

Report Yr. Mo. Annual
Period **71** Summary
(8-11)

| (Card Columns). (12-13) (14-18) (19-25) | | | |
|---|------|----------------------|-------------|
| ACTIVITY | Code | VISITS FOR THE MONTH | |
| | | Total Number | Total Hours |
| Hunting: Big Game | 01 | 628 | 4834 |
| Upland Game | 02 | | |
| Waterfowl | 03 | | |
| Other Migratory | 04 | | |
| Other | 05 | | |
| Bow | 06 | 628 | 4834 |
| Fishing: Salt Water | 07 | | |
| Warm Water | 08 | 860 | 1720 |
| Cold Water | 09 | | |
| Environmental Education | 10 | 42 | 6 |
| Wildlife Photography | 11 | 3 | 9 |
| Wildlife Observation | 12 | 465 | 1363 |
| Conducted Programs | 13 | | |
| Field Trials | 14 | | |
| Wildlife Trails | 15 | | |
| Wildlife Tours/Routes | 16 | | |
| Visitor Contact Stations | 17 | | |
| Camping (wildlife related) | 18 | | |
| Picnicking (wildlife related) | 19 | 246 | 246 |
| Wildlife Interpretive Center | 20 | | |
| On-Site Programs | 21 | 532 | 50 |

| (Card Columns). (12-13) (14-18) (19-25) | | | |
|---|------|----------------------|-------------|
| ACTIVITY | Code | VISITS FOR THE MONTH | |
| | | Total Number | Total Hours |
| On-Site Programs | 22 | 315 | 40 |
| *Miscellaneous Wildlife | 23 | 145 | 451 |
| Swimming | 24 | | |
| Boating | 25 | | |
| Water Skiing | 26 | | |
| Camping | 27 | | |
| Group Camping | 28 | | |
| Picnicking | 29 | 281 | 406 |
| Horseback Riding | 30 | | |
| Bicycling | 31 | | |
| Winter Sports | 32 | | |
| Fruit, Nut and Vegetable Collecting | 33 | 4 | 32 |
| *Miscellaneous Non-Wildlife | 34 | 239 | 846 |
| Peak Load Day | 35 | 231 | |
| Actual Visits | 36 | 2414 | |
| Fee Area Use | 37 | 628 | 4834 |
| Number of Fee Areas | 38 | (14-18) 1 | |
| Fee Collections | 39 | \$876.00 | |
| Collection Costs | 40 | \$96.00 | |

3-1757
Form NR-7
(Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS⁽¹⁾

Refuge Presquile NWR

Year 1971

| | Collections and Receipts (Seeds, rootstocks, trees, shrubs) | | | | | | Plantings (Marsh - Aquatic - Upland) | | | | | | |
|------------------------|--|---------------------|------|------------------------|--------|-----------------------------------|---|---------------------------------------|--|---------------------------------------|------|-----------|---|
| Species | Amount (Lbs., bus., etc.) | (2) C or R | Date | Method or Source | Cost | (3) Total Amount on Hand | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount and Nature of Propagules | Date | Survival | Cause of Loss |
| American Beachgrass | 5,000 plants | R | 4/71 | USDA SCS | 0 | 0 | S.W. island bank on navigational channel | Approx. 18" apart each plant | 100 yards shoreline by 25' high bank | 5000 plants | 4/71 | 10% | river flooding undercut bank; eroding soil and plants into river |
| Korean Lespedeza | 25 lbs. | R | 4/71 | purchase | \$6.25 | 0 | East river channel banding site | 5 lb/ac. | 1 acre | 25 lbs. seed | 4/71 | excellent | |
| Sericea Lespedeza | 10 lbs. | R | 4/71 | purchase | \$5.00 | 0 | S.W. island bank on navigational channel | 20 lb/ac. | 1/5 acre | 10 lbs. seed | 4/71 | poor | river flooding undercut bank; eroding soil and seed into river. |

- (1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:

Marsh and aquatic _____

Hedgerows, cover patches _____

Food strips, food patches 1 acre

Forest plantings _____

Rf bank (erosion control) 1/5 acre

Remarks: _____

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Division of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Presquile NWR County Chesterfield State Virginia

| Cultivated Crops Grown | Permittee's Share Harvested | | Government's Share or Return | | | | Total Acreage Planted | Green Manure, Cover and Water-fowl Browsing Crops Type and Kind | Total Acreage |
|------------------------------------|-----------------------------|----------|------------------------------|----------|-------------------|----------|-----------------------|---|---------------|
| | Acres | Bu./Tons | Harvested Acres | Bu./Tons | Unharvested Acres | Bu./Tons | | | |
| Corn | 0 | 0 | 4 | 480 Bu. | 66 | 5280 Bu. | 70 | | |
| Buckwheat overseeded with ryegrass | 0 | 0 | 0 | 0 | 14 | 140/75 | 14 | | |
| Wheat | 0 | 0 | 0 | 0 | 60 | 0/8 | 60 | | |
| | | | | | | | | Clover-waterfowl browse | 6 |
| | | | | | | | | Soybeans-green manure | 65 |
| | | | | | | | | Permanent pasture 95% fescue | 89 |
| | | | | | | | | Fallow Ag. Land | 26 |

No. of Permittees: Agricultural Operations 0 Haying operations 0 Grazing Operations 0

| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash Revenue | GRAZING | Number Animals | AUM'S | Cash Revenue | ACREAGE |
|-------------------------------|----------------|-------|--------------|--|----------------|-------|--------------|---------|
| | | | | 1. Cattle | | | | |
| | | | | 2. Other | | | | |
| | | | | 1. Total Refuge Acreage Under Cultivation | | | | 239 |
| Hay | d | | | 2. Acreage Cultivated as Service Operation | | | | |

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report Total land area devoted to agricultural purposes during the year.

| | Revenue | Cash | ACREAGE |
|---|---------|------|-------------|
| Grazing Operations | 0 | | |
| Pellow Ag. Land | | | 56 |
| 35% lease Permanent pasture income | | | 89 |
| 30% pasture-Green pasture | | | 62 |
| clover-waterway | | | 6 |
| Acres and King don't Browning Crops over and water- pasture income | | | Total Acres |
| Virginia | | | |

REFUGE GRAIN REPORT

Refuge Presquile NWRMonths of January through December, 1957

| (1) VARIETY* | (2) ON HAND BEGINNING OF PERIOD | (3) RECEIVED DURING PERIOD | (4) TOTAL | (5) GRAIN DISPOSED OF | | | | (6) ON HAND END OF PERIOD | (7) PROPOSED OR SUITABLE USE* | | |
|----------------------|--|-------------------------------------|--------------|--------------------------|----------|---------|----------|------------------------------------|----------------------------------|---------|---------|
| | | | | Transferred | Seeded | Fed | Total | | Seed | Feed | Surplus |
| Wheat (Blueboy) | 3 Bu. | 90 Bu. | 93 Bu. | 0 | 87 Bu. | 0 | 87 Bu. | 6 Bu. | 6 Bu. | 0 | 0 |
| Corn | 150 Bu. | 480 Bu. | 630 Bu. | 0 | 0 | 150 Bu. | 150 Bu. | 480 Bu. | 0 | 480 Bu. | 0 |
| Corn (hybrid seed) | 0 | 19 Bu. | 19 Bu. | 0 | 17 Bu. | 0 | 17 Bu. | 2 Bu. | 2 Bu. | 0 | 0 |
| Buckwheat (Japanese) | 0 | 800 lbs. | 800 lbs. | 0 | 700 lbs. | 0 | 700 lbs. | 100 lbs. | 100 lbs. | 0 | 0 |
| Ryegrass Seed | 0 | 400 lbs. | 400 lbs. | 0 | 400 lbs. | 0 | 400 lbs. | 0 | 0 | 0 | 0 |
| Soybeans (York) | 0 | 50 Bu. | 50 Bu. | 0 | 50 Bu. | 0 | 50 Bu. | 0 | 0 | 0 | 0 |

(8) Indicate shipping or collection points Hopewell, Virginia(9) Grain is stored at Presquile National Wildlife Refuge - Grain bin in barn

(10) Remarks _____

*See instructions on back.

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Year 1971

None

Total income

Method of slash disposal

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PESTICIDE APPLICATION

Refuge

Presquile NWR

Proposal Number

Reporting Year

71-1

1971

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|------------------------|---|------------------------------|---------------------|------------------------------------|----------------------------------|------------------|------------------|---------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 5/24 5/25 | Jimson weed Lambsquarter Dock Wild mustard Pig weed | Fields 2a, 2c, 5w, 5x, 5y | 71 | Atrazine 80% wettable powder | 142 lbs. | 1.6 A.E./acre | Nitrogen | Commercial application |

10. Summary of results (continue on reverse side, if necessary)

Excellent results - clean corn crop.

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

Refuge

ANNUAL REPORT OF PESTICIDE APPLICATION

Presquile NWR

Proposal Number

Reporting Year

71-2

1971

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|------------------------|------------------------|--|---------------------|------------------|----------------------------------|------------------|------------------|--------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 6/15 6/29 | Johnson Grass | Spot infestations all refuge fields and fence rows | 12 | Dalapon | 60 lbs. | 5 lbs a.e./acre | water | refuge tractor PTO |

10. Summary of results (continue on reverse side, if necessary)

Although Johnsongrass grew more rapidly due to abundant rainfall during the growing season; very good results on our scattered patches were realized.

3-1979 (NR-12)
(9/63)

Bureau of Sport Fisheries and Wildlife

Refuge

Presquile NWR

ANNUAL REPORT OF PESTICIDE APPLICATION

Proposal Number

Reporting Year

71-3

1971

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|---------------------------|---------------------------|--------------------------------|---------------------------|---------------------|--|---------------------|------------------------|-----------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| | | | | | | | | |

10. Summary of results (continue on reverse side, if necessary)

This proposal not carried out in 1971 due to good condition of corn after atrazine application and one cultivation.



71-1 A portion of the island taken from approximately 2000 feet. Field headquarters at lower right; east marsh at top right; little creek entering swamp at top left.



71-2 In May our office was moved to the Tartan Building, 320 E. Broadway in Hopewell. We are pleased with the new accommodations.



71-3 A predator-proof duck pen was constructed in this area in late July.



71-4 We simply scooped out a shallow depression to collect rainfall. The area is normally wet; we were fortunate to have a prolonged dry spell in which to work.



71-5 Completed pen after a good summer shower filled it up.



71-6 The pen's first tenants - nest box imprinted wood ducks donated by Curles Neck Farm.



71-7 Bank swallows had a large colony this summer in the ship channel bank. According to local birders the next closest colony is 100 miles away.



71-8 A young osprey with an injured wing brought to us by state game warden Foster. It refused to eat and died after about 10 days.



71-9 Area biologist Florschutz and forester Czuhai visited us in connection with planning experimental timber cutting on plots in the hardwood swamp.



71-10 Vegetation transects were run in the north marsh this year. Laborer Steve Feters and transition man George Powell assisted the manager in running the transects.



71-11 Our new wildlife trail "Presquile in Miniature" was marked with redwood stained 4x4 posts and sign numeral plates donated by a satisfied bow hunter who also was a trail planner for the Maryland - Washington, D.C. parks.



71-12 Mr. Natrix perched on a cedar tree near the wildlife trail waiting to frighten the first little old lady in tennis shoes.



71-13 An excellent corn crop and a brand new pickup truck.



71-14 Buckwheat was in just the right stage for the geese when they arrived.



71-15 A few of our thousands of honking winter tenants.



71-16 Included in the flock were approximately 200 blue and snow geese.



71-17 Much of the early goose feeding is on winter wheat, which produced a lush crop.



71-18 To get corn for our banding needs we rented a one row corn picker.



71-19 Using maintenanceman Vick's corn sheller, we managed to
auger 480 bushels into our grain bin.



71-20 An obvious sign of a deer population that is much too
high; a browse line as high as a deer can reach.



71-21 A class in hunting safety conducted by an instructor at the nearby community college. Total public use, mostly wildlife oriented, increased again this year.



71-22 Successful bow hunters at Presquile this year ranged from an 8 year old boy.....



71-23.....to an enthusiastic lady archer



71-24 to a proud young man with the nicest rack of the hunt; a 9 pointer.



71-25 Some of the numerous necessary maintenance chores included replacing ferry ramp stringers



71-26 and painting various buildings including portions of the old dairy barn.



71-27 The sun sets on Presquile Refuge.

WATER FOWL

MONTHS OF Sept. 1 TO Dec. 31, 1971

[illegible]

3-1750a
Cont. NR-1
(Rev. March 1953)

WATERFOWL
(Continuation Sheet)

REFUGE Presquile NWR

MONTHS OF Sept. 1 TO Dec. 31, 1971

| (1) Species | (2) Weeks of reporting period | | | | | | | | (3) 6 days : Estimated | (4) Production | |
|--------------------|----------------------------------|----------|----------|------------|-------|-------|-------|----------|---------------------------|--------------------|--------------|
| | 11/7-13 | 11/14-20 | 11/21-27 | 11/28-12/4 | 12/11 | 12/18 | 12/25 | 12/26-31 | waterfowl | Broods : Estimated | seen : total |
| Swans: | | | | | | | | | | | |
| Whistling | | | | | | | | | | | |
| Trumpeter | | | | | | | | | | | |
| Geese: | | | | | | | | | | | |
| Canada | 3000 | 6500 | 6500 | 8500 | 8000 | 7000 | 7000 | 7000 | 418950 | | |
| Cackling | | | | | | | | | | | |
| Brant | | | | | | | | | | | |
| White-fronted | | | | | | | | | | | |
| Snow | 25 | 25 | 30 | 20 | 25 | 25 | 25 | 30 | 1965 | | |
| Blue | 175 | 200 | 200 | 150 | 175 | 175 | 175 | 200 | 13310 | | |
| Other | | | | | | | | | | | |
| Ducks: | | | | | | | | | | | |
| Mallard | 850 | 3500 | 3500 | 2800 | 2500 | 7500 | 7500 | 7500 | 280750 | | |
| Black | 1200 | 3500 | 3500 | 2100 | 2500 | 3100 | 3100 | 3200 | 186810 | | |
| Gadwall | | | 20 | | | | 10 | | 280 | | |
| Baldpate | | | | 75 | | | | | 525 | | |
| Pintail | | 200 | 500 | 10 | 600 | 650 | 650 | 1000 | 31270 | | |
| Green-winged teal | | 30 | 50 | 50 | 25 | 200 | 200 | 30 | 4940 | | |
| Blue-winged teal | | | | | | | | | 525 | | |
| Cinnamon teal | | | | | | | | | | | |
| Shoveler | | | | | | | | | | | |
| Wood | 2600 | 1000 | 2000 | 1000 | 800 | 1500 | 1500 | 1900 | 163500 | | |
| Redhead | | | | | | | | | | | |
| Ring-necked | 5 | | 25 | 20 | | | | | 350 | | |
| Canvasback | | | | | | | | | | | |
| Scaup | | | | | | | | | 35 | | |
| Goldeneye | | | | | | | | | | | |
| Bufflehead | | | | | | | | | | | |
| Ruddy | | | | | 5 | | | | 70 | | |
| Other C. Merganser | | | | 5 | 75 | 75 | 75 | 50 | 1910 | | |
| Coot: | 25 | 20 | 25 | 20 | 25 | 30 | 30 | 30 | 1580 | | |

(Over)

(0462)

| | (5) Total Days Use | (6) Peak Number | (7) Total Production | SUMMARY |
|---|-----------------------|--------------------|-------------------------|--|
| Swans | None | 0 | 0 | Principal feeding areas <u>Geese-refuge fields and Curles Neck</u> |
| Geese | 434,225 | 8670 | 0 | area. Ducks - refuge swamp and marshes. |
| Ducks | 670,965 | 13,680 | 0 | Principal nesting areas |
| Coots | 1580 | 30 | 0 | |
| Reported by <u>Paul D. Daly</u> <u>Refuge Manager</u> | | | | |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

RECEIVED 12/12/57

RECEIVED 12/12/57

12/12/57

(RECEIVED 12/12/57)
CONF. 12-1
3-11207

(RECEIVED 12/12/57)
CONF. 12-1
3-11207

3-1751

Form NR-1A

(Aug. 1952)

MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Presquile NWR

Months of September 1 to December 31,

19 71

| (1) Species Common Name | (2) First Seen | | (3) Peak Concentration | | (4) Last Seen | | (5) Production | | (6) Total |
|----------------------------------|-------------------|-------|---------------------------|-----------------|------------------|-------|-------------------|---------------|--------------|
| | Number | Date | Number | Inclusive Dates | Number | Date | Number Colonies | Total # Nests | Total Young |
| I. Water and Marsh Birds: | | | | | | | | | |
| Great Blue Heron | 20 | 9/1 | 20 | 9/1-12/31 | 20 | 12/31 | | | 2440 |
| Little Green Heron | 2 | 9/1 | 2 | 9/1-9/10 | 1 | 9/20 | | | 40 |
| American Egret | 25 | 9/1 | 27 | 9/18 | 1 | 11/13 | | | 1332 |
| Sora Rail | 5 | 9/3 | 50 | 9/30 | 4 | 11/13 | | | 1220 |
| Common Gallinule | 1 | 12/16 | 4 | 12/18 | 2 | 12/31 | | | 30 |
| Pied Billed Grebe | 1 | 9/8 | 6 | 12/10 | 3 | 12/31 | | | 342 |
| Horned Grebe | 1 | 11/18 | 1 | 11/18-12/31 | 1 | 12/31 | | | 43 |
| Ring-Billed Gull | 70 | 9/1 | 200 | 12/1-12/31 | 200 | 12/31 | | | 19154 |
| Herring Gull | 45 | 9/1 | 75 | 12/1-12/31 | 75 | 12/31 | | | 7930 |
| Laughing Gull | 130 | 9/1 | 130 | 9/1-9/20 | 2 | 11/9 | | | 6090 |
| Great Black-Backed Gull | 12 | 11/21 | 15 | 12/18 | 12 | 12/31 | | | 400 |
| Forster's Tern | 3 | 9/1 | 12 | 9/22 | 1 | 10/21 | | | 255 |
| Common Tern | 1 | 9/1 | 2 | 9/22 | 1 | 9/30 | | | 30 |
| Greater Yellowlegs | 3 | 9/1 | 3 | 9/1-9/10 | 2 | 9/25 | | | 75 |
| Killdeer | 3 | 9/1 | 50 | 12/21 | 30 | 12/31 | | | 3416 |
| Common Snipe | 40 | 11/11 | 100 | 12/16 | 55 | 12/31 | | | 3250 |

(over)

(OAGL)

| (1) | (2) | (3) | (4) | (5) | (6) | | |
|--------------------------|-----|-------|-----|-------------|-----|-------|-------|
| II. Doves and Pigeons: | | | | | | | |
| Mourning dove | 150 | 9/1 | 500 | 10/2 | 40 | 12/31 | 28060 |
| White-winged dove | 3 | 8/1 | 20 | 8/1 | 30 | 8/31 | 3172 |
| Glossy Icthyophaga | 3 | 8/1 | 3 | 8/1-8/10 | 5 | 8/31 | 32 |
| Common Pigeon | 1 | 8/1 | 5 | 8/31 | 1 | 8/30 | 30 |
| IV. Predaceous Birds: | 3 | 8/1 | 75 | 8/31 | 1 | 10/31 | 522 |
| Golden eagle | 1 | 11/18 | 1 | 11/18 | 1 | 11/18 | 10 |
| Duck hawk | 130 | 8/1 | 130 | 8/1-8/30 | 8 | 8/31 | 8030 |
| Horned owl | 12 | 8/1 | 12 | 8/1-8/31 | 12 | 8/31 | 1330 |
| Magpie | 30 | 8/1 | 300 | 8/1-8/31 | 300 | 8/31 | 13324 |
| Raven | | | | | | | |
| Crow | 30 | 9/1 | 50 | 11/26 | 35 | 12/31 | 4636 |
| Bald Eagle | 1 | 11/11 | 2 | 11/18-12/31 | 2 | 12/31 | 100 |
| Osprey | 1 | 9/10 | 1 | 9/10-9/13 | 1 | 9/13 | 4 |
| Red Tailed Hawk | 6 | 9/1 | 6 | 9/1-12/31 | 6 | 12/31 | 732 |
| Red Shouldered Hawk | 3 | 9/1 | 4 | 12/18 | 3 | 12/31 | 366 |
| Coopers Hawk | 1 | 12/11 | 1 | 12/11-12/31 | 1 | 12/31 | 20 |
| Marsh Hawk | 1 | 11/5 | 2 | 12/10 | 1 | 12/31 | 56 |
| Sparrow Hawk | 1 | 11/9 | 3 | 12/18 | 2 | 12/31 | 104 |
| Barred Owl | 5 | 9/1 | 5 | 9/1-12/31 | 5 | 12/31 | 610 |
| Barn Owl | 1 | 9/1 | 2 | 11/6-12/31 | 2 | 12/31 | 244 |
| Reported by Paul D. Daly | | | | | | | |

Reported by Paul D. Daly

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1752
(Form NR-2)
(April 1946)

UPLAND GAME BIRDS

Refuge Presquile NWR

Months of September 1 to December 31, 19 71

| (1) Species | (2) Density | (3) Young Produced | | | (4) Sex Ratio | (5) Removals | | | (6) Total | (7) Remarks |
|-----------------|--|--------------------------|------------------------------|--------------------|------------------------|-----------------|---------------------|-----------------|--|--|
| | | Acres per Bird | Number broods observed | Estimated Total | | Hunting | For Re- stocking | For Research | | |
| Common Name | Cover types, total acreage of habitat | | | | Percentage | | | | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Bob-White Quail | Field borders and swamp edges (300 acres) | 4 | 0 | 0 | Unknown | 0 | 0 | 0 | 75 | Three coveys known |
| Turkey | Entire refuge hardwood swamp and marshes (1329 acres) | 66 | 0 | 0 | 3 Males to 1 Female | 0 | 0 | 0 | 20 | Highest count at one time was 8 in December |
| Pheasant | Uplands and edges (300 acres) | 150 | 0 | 0 | 1:1 | 0 | 0 | 0 | 2 | |

*Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- | | |
|---------------------|--|
| (1) SPECIES: | Use correct common name. |
| (2) DENSITY: | Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| (3) YOUNG PRODUCED: | Estimated number of young produced, based upon observations and actual counts in representative breeding habitat. |
| (4) SEX RATIO: | This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available. |
| (5) REMOVALS: | Indicate total number in each category removed during the report period. |
| (6) TOTAL: | Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons. |
| (7) REMARKS: | Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested. |

*Only columns applicable to the period covered should be used.

Form NR-3
(June 1945)

BIG GAME

Refuge Presquile NWR

Calendar Year 1971

| (1) Species | (2) Density | (3) Young Produced | (4) Removals | | | | (5) Losses | | | (6) Introductions | | (7) Estimated Total Refuge Population | | (8) Sex Ratio |
|----------------------|-------------------------------|--------------------------|-----------------|---------------------|------|-----------------|---------------|-----------|----------------|----------------------|--------|--|---------------------|---------------------|
| | | | Hunting | For Re- stocking | Sold | For Research | Predation | Disease * | Winter Loss | Number | Source | At period of Greatest use | As of Dec. 31 | |
| White-tailed deer | Entire refuge (1329 acres) | 50 | 24 | | | | | 6 | 6 | | | 200 | 180 | 1:1 |

Remarks: * Indicates deer shot during the bow hunt and believed dead through infection or loss of blood etc. but not found.

Reported by Paul D. Daly

DISEASE

Refuge Presquile NWR Year 19 71

Botulism

Lead Poisoning or other Disease

Period of outbreak September 20 - 27, 1971

Period of heaviest losses September 25, 26

Losses:

| | Actual Count | Estimated |
|----------------|---------------|---------------|
| (a) Waterfowl | <u>8</u> | <u>8</u> |
| (b) Shorebirds | <u> </u> | <u> </u> |
| (c) Other | <u> </u> | <u> </u> |

| | No. Recovered | % Recovered |
|----------------|---------------|---------------|
| (a) Waterfowl | <u> </u> | <u> </u> |
| (b) Shorebirds | <u> </u> | <u> </u> |
| (c) Other | <u> </u> | <u> </u> |

Areas affected (location and approximate acreage)
Panned wood ducks in spoils area.

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

4" average depth of water in pen. Remaining ducks were removed from the pen for four weeks; they were returned after numerous rains and cool weather occurred - no more losses noted after 9/27.

Condition of vegetation and invertebrate life mud flats

Remarks Opinion of pathologist at state animal health laboratory was that ducks possibly fed on maggots from bird previously killed by red tailed hawk.

Kind of disease None

Species affected

| Number Affected Species | Actual Count | Estimated |
|-------------------------|---------------|---------------|
| <u> </u> | <u> </u> | <u> </u> |
| <u> </u> | <u> </u> | <u> </u> |
| <u> </u> | <u> </u> | <u> </u> |

Number Recovered

Number lost

Source of infection

Water conditions

Food conditions

Remarks

Bureau of Sport Fisheries and Wildlife
Division of Wildlife Refuges

MONTHLY RECREATIONAL USE REPORT

Refuge name
Presquile NWR
State
Virginia

State
Code **46**
(1-2)

Congressional
District Code **03**
(3-4)

Refuge
Code **455**
(5-7)

Report Yr. Mo. Annual
Period **71** Summary
(8-11)

| (Card Columns). (12-13) (14-18) (19-25) | | | |
|---|------|----------------------|-------------|
| ACTIVITY | Code | VISITS FOR THE MONTH | |
| | | Total Number | Total Hours |
| Hunting: Big Game | 01 | 628 | 4834 |
| Upland Game | 02 | | |
| Waterfowl | 03 | | |
| Other Migratory | 04 | | |
| Other | 05 | | |
| Bow | 06 | 628 | 4834 |
| Fishing: Salt Water | 07 | | |
| Warm Water | 08 | 860 | 1720 |
| Cold Water | 09 | | |
| Environmental Education | 10 | 42 | 6 |
| Wildlife Photography | 11 | 3 | 9 |
| Wildlife Observation | 12 | 465 | 1363 |
| Conducted Programs | 13 | | |
| Field Trials | 14 | | |
| Wildlife Trails | 15 | | |
| Wildlife Tours/Routes | 16 | | |
| Visitor Contact Stations | 17 | | |
| Camping (wildlife related) | 18 | | |
| Picnicking (wildlife related) | 19 | 246 | 246 |
| Wildlife Interpretive Center | 20 | | |
| On-Site Programs | 21 | 532 | 50 |

| (Card Columns). (12-13) (14-18) (19-25) | | | |
|---|------|----------------------|-------------|
| ACTIVITY | Code | VISITS FOR THE MONTH | |
| | | Total Number | Total Hours |
| On-Site Programs | 22 | 315 | 40 |
| *Miscellaneous Wildlife | 23 | 145 | 451 |
| | | | |
| Swimming | 24 | | |
| Boating | 25 | | |
| Water Skiing | 26 | | |
| Camping | 27 | | |
| Group Camping | 28 | | |
| Picnicking | 29 | 281 | 406 |
| Horseback Riding | 30 | | |
| Bicycling | 31 | | |
| Winter Sports | 32 | | |
| Fruit, Nut and Vegetable Collecting | 33 | 4 | 32 |
| *Miscellaneous Non-Wildlife | 34 | 239 | 846 |
| Peak Load Day | 35 | 231 | |
| Actual Visits | 36 | 2414 | |
| | | | |
| Fee Area Use | 37 | 628 | 4834 |
| Number of Fee Areas | 38 | (14-18) 1 | |
| Fee Collections | 39 | \$ 876.00 | |
| Collection Costs | 40 | \$ 96.00 | |

3-1757

Form NR-7

(Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS⁽¹⁾Refuge Presquile NWRYear 1971

| Species | Collections and Receipts (Seeds, rootstocks, trees, shrubs) | | | | | | Plantings (Marsh - Aquatic - Upland) | | | | | | |
|------------------------|--|---------------------|------|------------------------|--------|-----------------------------------|---|---------------------------------------|--|---------------------------------------|------|-----------------|--|
| | Amount (Lbs., bus., etc.) | (2) C or R | Date | Method or Source | Cost | (3) Total Amount on Hand | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount and Nature of Propagules | Date | Survival | Cause of Lo |
| American Beachgrass | 5,000 plants | R | 4/71 | USDA SCS | 0 | 0 | S.W. island bank on navigational channel | Approx. 18" apart each plant | 100 yards shoreline by 25' high bank | 5000 plants | 4/71 | 10 _p | river flooding undercut bank; eroding soil and plants into river. |
| Korean Lespedeza | 25 lbs. | R | 4/71 | purchase | \$6.25 | 0 | East river channel banding site | 5 lb/ac. | 1 acre | 25 lbs. seed | 4/71 | excellent | |
| Sericea Lespedeza | 10 lbs. | R | 4/71 | purchase | \$5.00 | 0 | S.W. island bank on navigational channel | 20 lb/ac. | 1/5 acre | 10 lbs. seed | 4/71 | poor | river flooding undercut bank; eroding soil and seed in river. |

(1) Report agronomic farm crops on Form NR-8

(2) C = Collections and R = Receipts

(3) Use "S" to denote surplus

Remarks:

Total acreage planted:

Marsh and aquatic _____

Hedgerows, cover patches _____

Food strips, food patches 1 acre

Forest plantings _____

River bank (erosion control) 1/5 acre

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Division of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Presquile NWR County Chesterfield State Virginia

| Cultivated Crops Grown | Permittee's Share Harvested | | Government's Share or Return | | | | Total Acreage Planted | Green Manure, Cover and Water- fowl Browsing Crops Type and Kind | Total Acreage |
|---------------------------------------|--------------------------------|----------|------------------------------|----------|-------------|----------|-----------------------------|---|------------------|
| | Acres | Bu./Tons | Harvested | | Unharvested | | | | |
| | | | Acres | Bu./Tons | Acres | Bu./Tons | | | |
| Corn | 0 | 0 | 4 | 480 Bu. | 66 | 5230 Bu. | 70 | | |
| Buckwheat overseeded with ryegrass | 0 | 0 | 0 | 0 | 14 | 140/75 | 14 | | |
| Wheat | 0 | 0 | 0 | 0 | 60 | 0/8 | 60 | | |
| | | | | | | | 144 | Clover-waterfowl browse | 26 |
| | | | | | | | | Soybeans-green manure | 65 |
| | | | | | | | | Permanent pasture 95% fescue | 89 |
| | | | | | | | | | 160 |
| | | | | | | | | Fallow Ag. Land | 26 |

No. of Permittees: Agricultural Operations 0 Haying operations 0 Grazing Operations 0

| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash Revenue | GRAZING | Number Animals | AUM'S | Cash Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
| | | | | 1. Cattle | | | | |
| | | | | 2. Other | | | | |
| | | | | 1. Total Refuge Acreage Under Cultivation | | | | 239 |
| Hay | d | | | 2. Acreage Cultivated as Service Operation | | | | |

REFUGE GRAIN REPORT

Refuge Presquile NWR

Months of January through December, 197

| (1) VARIETY* | (2) ON HAND BEGINNING OF PERIOD | (3) RECEIVED DURING PERIOD | (4) TOTAL | (5) GRAIN DISPOSED OF | | | | (6) ON HAND END OF PERIOD | (7) PROPOSED OR SUITABLE USE* | | |
|----------------------|--|-------------------------------------|--------------|--------------------------|----------|---------|----------|------------------------------------|----------------------------------|---------|--------|
| | | | | Transferred | Seeded | Fed | Total | | Seed | Feed | Surplu |
| Wheat (Blueboy) | 3 Bu. | 90 Bu. | 93 Bu. | 0 | 87 Bu. | 0 | 87 Bu. | 6 Bu. | 6 Bu. | 0 | 0 |
| Corn | 150 Bu. | 480 Bu. | 630 Bu. | 0 | 0 | 150 Bu. | 150 Bu. | 480 Bu. | 0 | 480 Bu. | 0 |
| Corn (hybrid seed) | 0 | 19 Bu. | 19 Bu. | 0 | 17 Bu. | 0 | 17 Bu. | 2 Bu. | 2 Bu. | 0 | 0 |
| Buckwheat (Japanese) | 0 | 800 lbs. | 800 lbs. | 0 | 700 lbs. | 0 | 700 lbs. | 100 lbs. | 100 lbs. | 0 | 0 |
| Ryegrass Seed | 0 | 400 lbs. | 400 lbs. | 0 | 400 lbs. | 0 | 400 lbs. | 0 | 0 | 0 | 0 |
| Soybeans (York) | 0 | 50 Bu. | 50 Bu. | 0 | 50 Bu. | 0 | 50 Bu. | 0 | 0 | 0 | 0 |

(8) Indicate shipping or collection points Hopewell, Virginia

(9) Grain is stored at Presquile National Wildlife Refuge - Grain bin in barn

(10) Remarks _____

*See instructions on back.

Form NR-11

TIMBER REMOVAL

Refuge Presquile NWR Year 1971

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B.F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut |
|-----------|------------|------------------|---------|--|----------------|--------------|-------------------------------------|-------------|
| None | | | | | | | | |

Total acreage cut over _____ Total income _____

No. of units removed B. F. _____ Method of slash disposal _____
Cords _____
Ties _____